

STIC Search Report

EIC 1700

STIC Database Tracking Number: 186508

TO: Amanda Walke
Location: REM 9D64
Art Unit : 1752
April 27, 2006

Case Serial Number: 10/091373

From: Usha Shrestha
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-3519
usha.shrestha@uspto.gov

Search Notes



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
- Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

- Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

ASAP Please -
Amended application

Access DB# 186508

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Aminda Walke Examiner #: 751663 Date: 4/15/00
Art Unit: 1752 Phone Number: 302-10-1331 Serial Number: 10/091373
Mail Box and Bldg/Room Location: REM 9724 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: BW Sheet Attached

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search for the combination of monomers of formula I + formula II,
(attached)
Thank you.

Rush

SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Cntr

APR 21 REC.

Pat. & T.M. Office

STAFF USE ONLY

Type of Search

Vendors and cost where applicable



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov



Data Sheet

CONFIRMATION NO. 7240

SERIAL NUMBER 10/091,373	FILING DATE 03/04/2002 RULE	CLASS 430	GROUP ART UNIT 1752	ATTORNEY DOCKET NO. ARC920010125US1
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APPLICANTS

Hiroshi Ito, San Jose, CA;

CONTINUING DATA *****

FOREIGN APPLICATIONS *****

REQUIRED, FOREIGN FILING LICENSE GRANTED
 04/09/2002

Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no	STATE OR COUNTRY CA	SHEETS DRAWING 1	TOTAL CLAIMS 31	INDEPENDENT CLAIMS 4
USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance				
Reviewed and Acknowledged Examiner's Signature _____ Initials _____				

ADDRESS

Elin Hartrum
 HED & ASSOCIATES
 Suite 210
 100 Menlo Avenue
 Menlo Park, CA
 94025

TITLE

POLYMER FOR USE IN CHEMICAL AMPLIFICATION RESISTS

FILING FEE RECEIVED 1368	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit
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This listing of the claims replaces any and all prior versions and listings of claims in the application:

LISTING OF THE CLAIMS

1. (Currently amended) A copolymer prepared by copolymerization of:
a first monomer having the structure of formula (I)



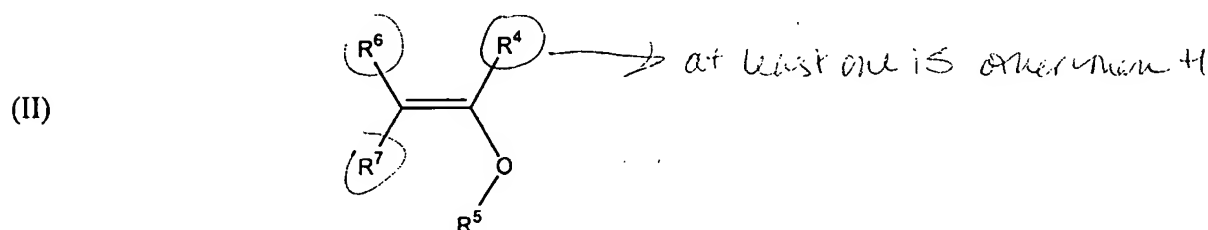
wherein

R^1 is H, F, CN, CH_3 , or C_{1-6} fluoroalkyl,

R^{2a} and R^{2b} are independently H or F, and

R^3 is CN or COOR, wherein R is selected from the group consisting of H, C_{1-12} alkyl and C_{1-12} fluoroalkyl, or is selected so as to render R^3 acid-cleavable; and

a second monomer having the structure of formula (II)



wherein

R^4 is H, C_{1-12} alkyl, C_{3-15} alicyclic, or fluorinated C_{3-15} alicyclic,

R^5 is C_{1-12} alkyl, C_{1-12} alkyl substituted with 1-12 fluorine atoms and 0-2 hydroxyl groups, or C_{3-15} alicyclic, or R^4 and R^5 together form a five-, six-, or seven-membered ring,

R^6 is H, C_{1-12} alkyl, or C_{1-12} fluoroalkyl, or R^4 and R^6 together form a five-, six-, or seven-membered ring, and

R^7 is H, C_{1-12} alkyl, or C_{1-12} fluoroalkyl, or R^7 and R^5 together represent $-X-(CR^8R^9)_n-$, in which case R^4 and R^6 are H, X is O or CH_2 , n is 1 or 2, R^8 and R^9 are H, C_{1-12} alkyl, or C_{1-12}

fluoroalkyl, or together form an oxo moiety (=O), with the proviso that when R⁸ and R⁹ together form =O, n is 1,

wherein: (1) any of R¹, R³, R⁴, R⁵, R⁶, and R⁷ may be further substituted with an inert, nonhydrogen substituent[[,]]; (2) when R⁵ is C₁₋₁₂ alkyl, at least one of R⁴, R⁶ and R⁷ is other than hydrogen; and (3) ~~further wherein~~ at least one of the first monomer and the second monomer contains one or more fluorine atoms.

2. (Previously presented) The copolymer of Claim 29, wherein R¹ is CF₃.
3. (Original) The copolymer of Claim 2, wherein R³ is COOR.
4. (Original) The copolymer of Claim 2, wherein R³ is CN.
5. (Original) The copolymer of Claim 1, wherein R¹ and R² are F and R³ is COOR.
6. (Original) The copolymer of Claim 1, wherein R¹ is CN and R² is H.
7. (Original) The copolymer of Claim 3, wherein R is C₁₋₁₂ alkyl.
8. (Original) The copolymer of Claim 5, wherein R is C₁₋₁₂ alkyl.
9. (Original) The copolymer of Claim 3, wherein R is selected to render R³ acid-cleavable.
10. (Original) The copolymer of Claim 5, wherein R is selected to render R³ acid-cleavable.
11. (Original) The copolymer of Claim 10, wherein R is a tertiary alkyl substituent.
12. (Original) The copolymer of Claim 11, wherein R is *t*-butyl.

Banks, Kendra

From: Kelly, Cynthia
Sent: Thursday, April 27, 2006 11:11 AM
To: Banks, Kendra
Cc: Walke, Amanda
Subject: FW: Status of Search Request

Ms Banks

Can you all do a rush search for the application cited below?
It is in after final status and we need the results quickly

thank You

CYNthia H. Kelly
SPE 1752
2-1526

-----Original Message-----

From: Walke, Amanda
Sent: Thursday, April 27, 2006 10:50 AM
To: Kelly, Cynthia
Subject: FW: Status of Search Request

I have an after final that I turned a search in for last week, but they told me this morning when I went to check on its status that I needed you to email them to do the search earlier. Would you mind shooting them an email. I need it by tomorrow a.m. Thanks

-----Original Message-----

From: Banks, Kendra
Sent: Thursday, April 27, 2006 10:37 AM
To: Walke, Amanda
Subject: Status of Search Request

At the time you submitted your request there was a 7 business day turnaround for searches to be completed. If you need it before Monday when it's scheduled to be completed you must have your SPE email me and I can have someone work on it sooner.

Sorry for the inconvenience,

*Mrs. Kendra P. Banks
Technical Information Specialist
U.S. Patent & Trademark Office
Electronic Information Center 1700
Remsen 4B28
(571)272-2516
(571)273-0223 (Fax)*

=> fil reg

FILE 'REGISTRY' ENTERED AT 15:01:54 ON 27 APR 2006

=> d his)

FILE 'HCAPLUS' ENTERED AT 13:42:03 ON 27 APR 2006

L1 1 S US20030186160/PN
SEL RN

FILE 'REGISTRY' ENTERED AT 13:42:24 ON 27 APR 2006

L2 17 S E1-E17

FILE 'LREGISTRY' ENTERED AT 13:42:56 ON 27 APR 2006

L3 STR
L4 STR

FILE 'REGISTRY' ENTERED AT 13:49:32 ON 27 APR 2006

L5 SCR 2043
L6 STR L4
L7 STR L4
L8 50 S L3 AND L7 AND L5
L9 SCR 2077
L10 50 S L3 AND L7 AND L5 NOT L9
L11 STR L7
L12 50 S L3 AND L11 AND L5
L13 50 S L3 AND L11 AND L5 NOT L9
L14 SCR 1918 OR 1995 OR 2026 OR 2021 OR 2016
L15 50 S L3 AND L11 AND L5 NOT (L9 OR L14)
L16 50 S L3 AND L11 AND L5 NOT L14
L17 50 S L3 AND L7 AND L5 NOT (L9 OR L14)
L18 65283 S L3 AND L11 AND L5 NOT (L9 OR L14) FUL
L19 5 S L18 AND L2
SAV L18 TEMP WAL373/A

FILE 'HCAPLUS' ENTERED AT 14:53:30 ON 27 APR 2006

L20 242746 S L18
L21 59331 S L20 (L) PREP/RL
L22 4780 S L21 (L) ?RESIST?
L23 1429 S L22 AND PHOTOG?/SC
L24 1429 S L23 AND (RESIST? OR PHOTORESIST?)/IT
L25 108 S L24 AND AMPLIFIC?
L26 93 S L25 AND P/DT
L27 78 S L26 AND (1907-2002)/PRY,AY
L28 15 S L25 NOT L26
L29 11 S L28 NOT (2003-2006)/PY
L30 89 S L27 OR L29
L31 44 S L30 AND AMPLIFIC? (A) ?RESIST?
L32 1 S L31 AND L1

=> d que l31

L3 STR

C=C~G1 O=C~O
1 2 3 4 @5 6

VAR G1=CN/5

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L5 SCR 2043
L9 SCR 2077
L11 STR

C=C O-A
1 2 3 4

NODE ATTRIBUTES:

NSPEC IS RC AT 1
NSPEC IS RC AT 2
NSPEC IS RC AT 3
NSPEC IS RC AT 4

DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

L14 SCR 1918 OR 1995 OR 2026 OR 2021 OR 2016
L18 65283 SEA FILE=REGISTRY SSS FUL L3 AND L11 AND L5 NOT (L9 OR L14)
L20 242746 SEA FILE=HCAPLUS ABB=ON PLU=ON L18
L21 59331 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 (L) PREP/RL
L22 4780 SEA FILE=HCAPLUS ABB=ON PLU=ON L21 (L) ?RESIST?
L23 1429 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 AND PHOTOG?/SC
L24 1429 SEA FILE=HCAPLUS ABB=ON PLU=ON L23 AND (RESIST? OR PHOTORESIST?)/IT
L25 108 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND AMPLIFIC?
L26 93 SEA FILE=HCAPLUS ABB=ON PLU=ON L25 AND P/DT
L27 78 SEA FILE=HCAPLUS ABB=ON PLU=ON L26 AND (1907-2002)/PR Y,AY
L28 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L25 NOT L26
L29 11 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 NOT (2003-2006)/PY
L30 89 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 OR L29
L31 44 SEA FILE=HCAPLUS ABB=ON PLU=ON L30 AND AMPLIFIC? (A) ?RESIST?

=> fil hcap
FILE 'HCAPLUS' ENTERED AT 15:02:06 ON 27 APR 2006

=> d l31 1-44 ibib abs hitstr hitind

L31 ANSWER 1 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:219904 HCAPLUS

DOCUMENT NUMBER: 140:278420

TITLE: Chemical amplification type
photoresist composition

INVENTOR(S): Kanna, Shinichi; Mizutani, Kazuyoshi; Sasaki,

PATENT ASSIGNEE(S): Tomoya
 SOURCE: Fuji Photo Film Co., Ltd., Japan
 U.S. Pat. Appl. Publ., 44 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
US 2004053161	A1	20040318	US 2003-642182	2003 0818
			<--	
US 6830871	B2	20041214		
JP 2004102264	A2	20040402	JP 2003-294268	2003 0818
			<--	
PRIORITY APPLN. INFO.:			JP 2002-238122	A 2002 0819

AB A chemical **amplification** type resist composition comprises: (a) a resin comprising repeating units having a side chain containing the specific partial structure and which increases the solubility in an alkaline developing solution by the action of an acid, (b) a compound capable of generating an acid upon irradiation with actinic rays or a radiation, (c) a low-mol. compound having a mol. weight of 3,000 or lower, wherein the value determined with the specific calcn. formula is from 0.1 to 0.5, and (d) a solvent.

IT 672937-73-4P
 (chemical **amplification** type resist composition containing)

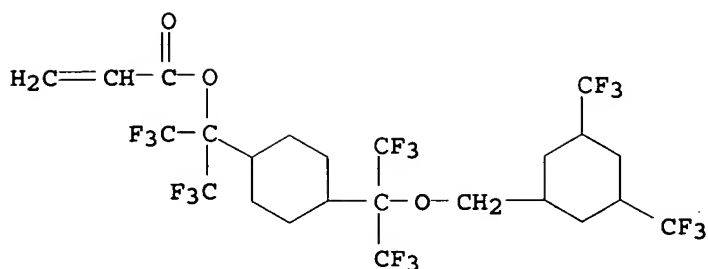
RN 672937-73-4 HCAPLUS

CN 2-Propenoic acid, 1-[4-[1-[[3,5-bis(trifluoromethyl)cyclohexyl]methoxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 672937-72-3

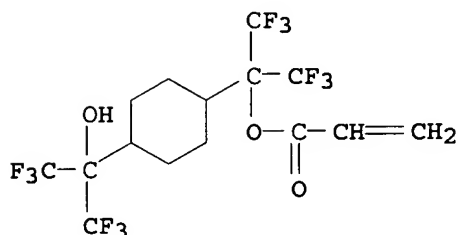
CMF C24 H24 F18 O3



CM 2

CRN 367522-45-0

CMF C15 H14 F12 O3



IC ICM G03F007-20

ICS G03F007-30; G03F007-038

INCL 430270100; 430311000; 430319000; 430905000; 430907000; 430919000;
430322000; 430325000CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76

ST chem amplification photoresist compn

IT Photoresists

(chemical amplification type resist composition)

IT 19600-49-8P, Triphenylsulfonium acetate 144317-44-2P,
Triphenylsulfonium nonafluorobutanesulfonate(acid generator for chemical amplification type
resist composition)IT 672937-67-6P 672937-69-8P 672937-71-2P 672937-73-4P
672937-74-5P 672937-76-7P 672937-77-8P 672937-79-0P(chemical amplification type resist composition
containing)IT 1478-61-1, 2,2-Bis(4-hydroxyphenyl)hexafluoropropane 54043-62-8,
1,3,5-Trifluoroadamantane 68896-33-3 93923-80-9 121470-42-6
122085-43-2 365568-55-4 672937-80-3(chemical amplification type resist composition
containing)

IT 3744-08-9, Triphenylsulfonium iodide

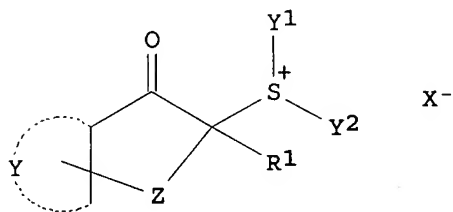
(preparation of acid generator for chemical amplification
type resist composition)REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L31 ANSWER 2 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:834248 HCAPLUS
 DOCUMENT NUMBER: 139:330330
 TITLE: Chemically amplified photoresist compositions
 with high sensitivity and resolution
 INVENTOR(S): Kodama, Kunihiro
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 63 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003302754	A2	20031024	JP 2002-110738	2002 0412

PRIORITY APPLN. INFO.: JP 2002-110738
 2002
 0412

OTHER SOURCE(S): MARPAT 139:330330
 GI



I

AB The resist compns., useful for excimer laser development, contain photoacid generators I (R1 = H, alkyl, aryl, cyano; Y1, Y2 = alkyl, aryl, aralkyl, heteroring; Y = condensed aromatic group, heteroring; Z = single bond, divalent linking group; X- = nonnucleophilic anion).

IT 159296-87-4P 250378-10-0P, Butyrolactone
 methacrylate-2-ethyl-2-adamantyl methacrylate copolymer
 607710-65-6P 607710-66-7P 607710-67-8P
 607710-68-9P 607710-69-0P 607710-70-3P
 607710-71-4P 607710-72-5P 607710-73-6P
 610300-97-5P 610300-98-6P 610301-00-3P
 610301-01-4P 610301-03-6P 615278-38-1P
 (sulfonium-based photoacid generators for excimer
 laser-sensitive photoresists with high sensitivity
 and resolution)

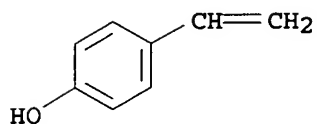
RN 159296-87-4 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with
 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 2628-17-3

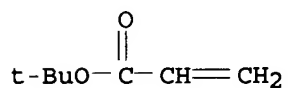
CMF C8 H8 O



CM 2

CRN 1663-39-4

CMF C7 H12 O2



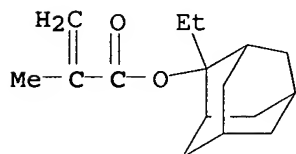
RN 250378-10-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 ester, polymer with tetrahydro-2-oxo-3-furanyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

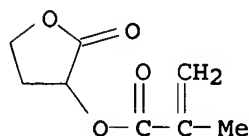
CMF C16 H24 O2



CM 2

CRN 195000-66-9

CMF C8 H10 O4



RN 607710-65-6 HCAPLUS

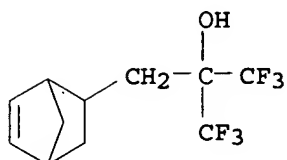
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-

methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with
 α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-
 ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

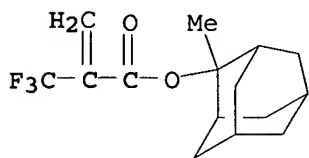
CMF C11 H12 F6 O



CM 2

CRN 188739-86-8

CMF C15 H19 F3 O2



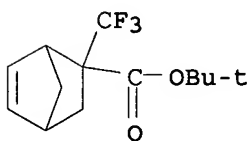
RN 607710-66-7 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-,
 1,1-dimethylethyl ester, polymer with 2-methyl-2-propenenitrile
 (9CI) (CA INDEX NAME)

CM 1

CRN 365568-55-4

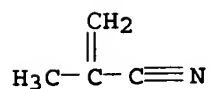
CMF C13 H17 F3 O2



CM 2

CRN 126-98-7

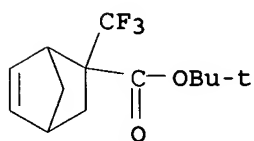
CMF C4 H5 N



RN 607710-67-8 HCAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-,
 1,1-dimethylethyl ester, polymer with methyl 2-(trifluoromethyl)-2-
 propenoate (9CI) (CA INDEX NAME)

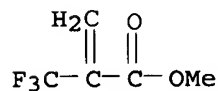
CM 1

CRN 365568-55-4
 CMF C13 H17 F3 O2



CM 2

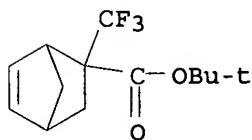
CRN 382-90-1
 CMF C5 H5 F3 O2



RN 607710-68-9 HCAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-,
 1,1-dimethylethyl ester, polymer with 2-
 methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-(trifluoromethyl)-2-
 propenoate (9CI) (CA INDEX NAME)

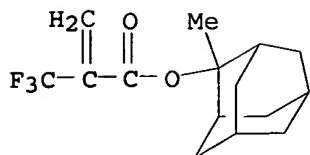
CM 1

CRN 365568-55-4
 CMF C13 H17 F3 O2



CM 2

CRN 188739-86-8
 CMF C15 H19 F3 O2



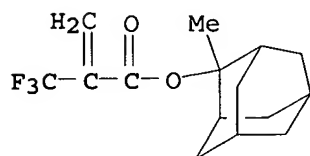
RN 607710-69-0 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.3^{0,2}]
dec-2-yl ester, polymer with
tricyclo[3.3.1.3^{0,2}]dec-1-yl 2-(trifluoromethyl)-2-propenoate
(9CI) (CA INDEX NAME)

CM 1

CRN 188739-86-8

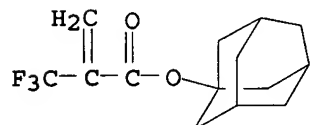
CMF C15 H19 F3 O2



CM 2

CRN 188739-82-4

CMF C14 H17 F3 O2



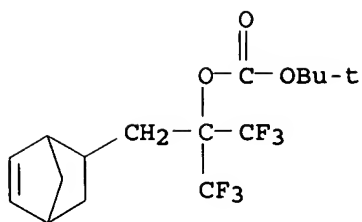
RN 607710-70-3 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, tricyclo[3.3.1.3^{0,2}]
dec-1-yl ester, polymer with 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-
2,2,2-trifluoro-1-(trifluoromethyl)ethyl 1,1-dimethylethyl
carbonate (9CI) (CA INDEX NAME)

CM 1

CRN 196314-63-3

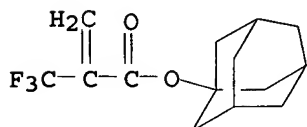
CMF C16 H20 F6 O3



CM 2

CRN 188739-82-4

CMF C14 H17 F3 O2



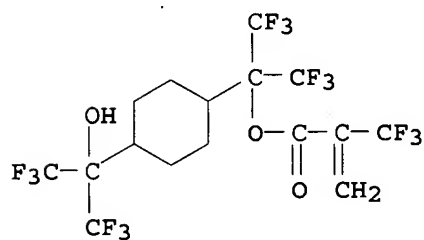
RN 607710-71-4 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-(2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl 1,1-dimethylethyl carbonate (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8

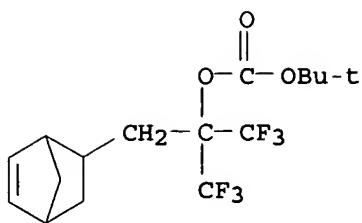
CMF C16 H13 F15 O3



CM 2

CRN 196314-63-3

CMF C16 H20 F6 O3



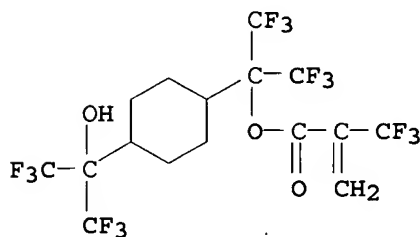
RN 607710-72-5 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.3^{0,2},7]dec-2-yl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8

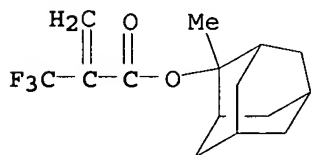
CMF C16 H13 F15 O3



CM 2

CRN 188739-86-8

CMF C15 H19 F3 O2



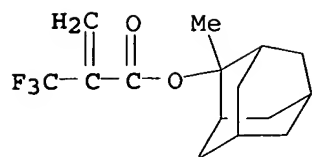
RN 607710-73-6 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.3^{0,2},7]dec-2-yl ester, polymer with 4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 188739-86-8

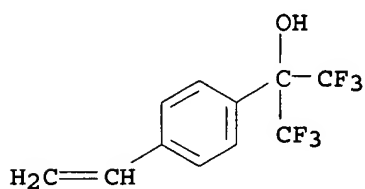
CMF C15 H19 F3 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



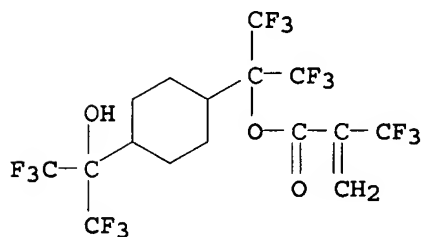
RN 610300-97-5 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 5-[2-(ethoxymethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8

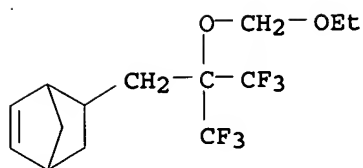
CMF C16 H13 F15 O3



CM 2

CRN 328114-61-0

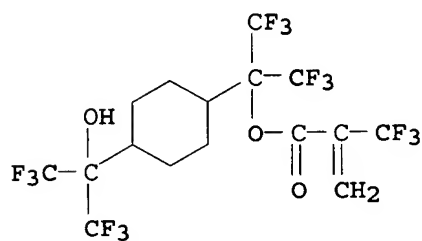
CMF C14 H18 F6 O2



RN 610300-98-6 HCAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

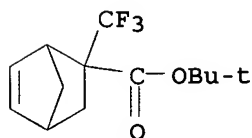
CM 1

CRN 479072-83-8
 CMF C16 H13 F15 O3



CM 2

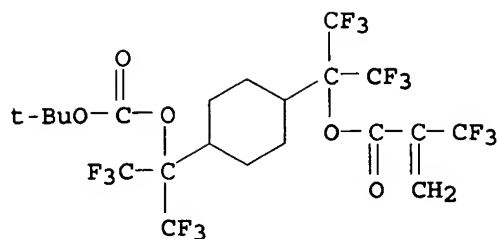
CRN 365568-55-4
 CMF C13 H17 F3 O2



RN 610301-00-3 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1-[4-[1-[[1,1-dimethylethoxy)carbonyl]oxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, polymer with tricyclo[3.3.1.1^{3,7}]dec-1-yl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

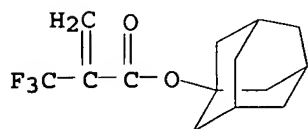
CRN 610300-99-7
 CMF C21 H21 F15 O5



CM 2

CRN 188739-82-4

CMF C14 H17 F3 O2



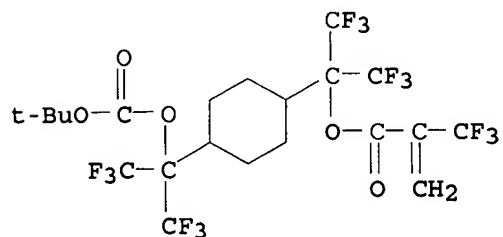
RN 610301-01-4 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1-[4-[1-[[[(1,1-dimethylethoxy)carbonyl]oxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, polymer with α,α-bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 610300-99-7

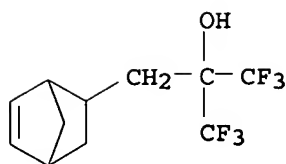
CMF C21 H21 F15 O5



CM 2

CRN 196314-61-1

CMF C11 H12 F6 O



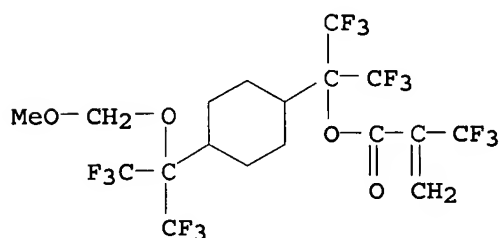
RN 610301-03-6 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, methyl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-(methoxymethoxy)-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 610301-02-5

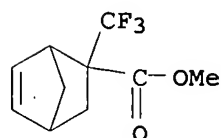
CMF C18 H17 F15 O4



CM 2

CRN 597581-42-5

CMF C10 H11 F3 O2



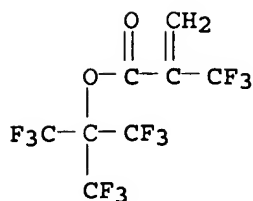
RN 615278-38-1 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1,1-bis(trifluoromethyl)ethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 615278-37-0

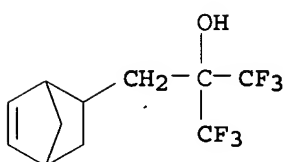
CMF C8 H2 F12 O2



CM 2

CRN 196314-61-1

CMF C11 H12 F6 O



- IC ICM G03F007-004
ICS G03F007-038; G03F007-039; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
- ST photoresist excimer laser sensitivity photoacid generator; chem
amplification photoresist resolu sulfonium PAG
- IT Sulfonium compounds
(arene, photoacid generators; sulfonium-based photoacid
generators for excimer laser-sensitive **photoresists**
with high sensitivity and resolution)
- IT Aromatic compounds
(sulfonium, photoacid generators; sulfonium-based photoacid
generators for excimer laser-sensitive **photoresists**
with high sensitivity and resolution)
- IT **Photoresists**
(sulfonium-based photoacid generators for excimer
laser-sensitive **photoresists** with high sensitivity
and resolution)
- IT 24979-70-2, p-Hydroxystyrene homopolymer
(VP 5000, VP 8000; sulfonium-based photoacid generators for
excimer laser-sensitive **photoresists** with high
sensitivity and resolution)
- IT 141-07-1 3089-11-0 4356-60-9 17464-88-9 161679-94-3
162846-57-3 162846-59-5 185502-14-1
(crosslinker; sulfonium-based photoacid generators for excimer
laser-sensitive **photoresists** with high sensitivity
and resolution)
- IT 615277-73-1 615277-76-4 615277-79-7 615277-81-1
615277-83-3 615277-86-6 615277-87-7 615277-90-2
615277-92-4 615277-95-7 615277-98-0 615278-00-7
615278-02-9 615278-05-2 615278-08-5 615278-11-0
615278-14-3 615278-17-6 615278-20-1 615278-23-4
615278-26-7 615278-29-0 615278-32-5
(photoacid generator; sulfonium-based photoacid generators for
excimer laser-sensitive **photoresists** with high

- sensitivity and resolution)
- IT 615277-70-8P
(photoacid generator; sulfonium-based photoacid generators for excimer laser-sensitive **photoresists** with high sensitivity and resolution)
- IT 615277-67-3P
(sulfonium-based photoacid generators for excimer laser-sensitive **photoresists** with high sensitivity and resolution)
- IT 109-92-2DP, Ethyl vinyl ether, ethers with hydroxystyrene homopolymer 24979-70-2DP, VP 15000, ethers with Et vinyl ether 129674-22-2P 143336-94-1P **159296-87-4P** 177034-73-0P 177034-75-2P 199432-82-1P 200808-68-0P 228101-60-8P **250378-10-0P**, Butyrolactone methacrylate-2-ethyl-2-adamantyl methacrylate copolymer 288620-13-3P 288620-15-5P 289623-64-9P 289706-85-0P 312620-54-5P 325143-38-2P 326591-96-2P 359635-35-1P 366808-82-4P 370102-83-3P 372968-15-5P 391232-36-3P 391613-77-7P 398140-38-0P 398140-43-7P 398140-45-9P 398140-59-5P 398140-68-6P 398140-69-7P 398140-77-7P 398140-80-2P 405509-19-5P 406702-00-9P 430437-18-6P 459418-30-5P 482609-97-2P 503003-65-4P 508210-04-6P 515876-73-0P 521303-15-1P 521303-16-2P 524699-47-6P 574735-94-7P **607710-65-6P** **607710-66-7P** **607710-67-8P** **607710-68-9P** **607710-69-0P** **607710-70-3P** **607710-71-4P** **607710-72-5P** **607710-73-6P** 607710-76-9P 607710-77-0P 610300-92-0P 610300-96-4P **610300-97-5P** **610300-98-6P** **610301-00-3P** **610301-01-4P** **610301-03-6P** 610301-04-7P 610301-05-8P 615278-33-6P 615278-35-8P **615278-38-1P**
(sulfonium-based photoacid generators for excimer laser-sensitive **photoresists** with high sensitivity and resolution)
- IT 75-77-4, Chlorotrimethylsilane, reactions 1600-44-8, Tetramethylenesulfoxide 54784-07-5
(sulfonium-based photoacid generators for excimer laser-sensitive **photoresists** with high sensitivity and resolution)
- IT 24979-69-9, Phenol, 3-ethenyl-, homopolymer 185405-14-5 321164-59-4 345212-27-3
(sulfonium-based photoacid generators for excimer laser-sensitive **photoresists** with high sensitivity and resolution)

L31 ANSWER 3 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:777219 HCAPLUS

DOCUMENT NUMBER: 139:299200

TITLE: Copolymer for use in chemical **amplification resists**

INVENTOR(S): Ito, Hiroshi

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 14 pp.

CODEN: USXXCO

DOCUMENT TYPE: **Patent**

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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 US 2003186160 A1 20031002 US 2002-91373
 2002
 0304

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 JP 2003292542 A2 20031015 JP 2003-50104
 2003
 0226

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 TW 593363 B 20040621 TW 2003-92104048
 2003
 0226

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 PRIORITY APPLN. INFO.: US 2002-91373 A
 2002
 0304

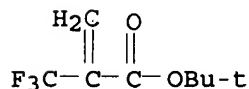
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 AB A copolymer is provided for use in a lithog. photoresist composition, particularly a chemical **amplification photoresist**. In a preferred embodiment, the copolymer is substantially transparent to deep UV radiation, i.e., radiation of a wavelength less than 250 nm, including 157 nm, 193 nm and 248 nm radiation, and has improved sensitivity and resolution. In one embodiment, the copolymer is comprised of an α -cyano- or an α -trifluoro-methacrylate monomer unit and a vinyl ether monomer unit. A lithog. photoresist composition containing the fluorinated copolymer is also provided, as is a process for using the composition to generate resist images on a substrate, i.e., in the manufacture of integrated circuits or the like.

IT 478623-13-1P 478623-14-2P 478623-15-3P
 478623-16-4P
 (copolymer for use in chemical **amplification resists**)

RN 478623-13-1 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 2-(ethenyloxy)-2-methylpropane (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8
 CMF C8 H11 F3 O2



CM 2

CRN 926-02-3
 CMF C6 H12 O

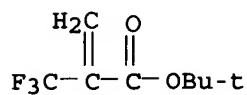


RN 478623-14-2 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,

polymer with ethoxyethene (9CI) (CA INDEX NAME)

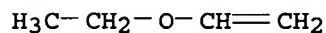
CM 1

CRN 105935-24-8
CMF C8 H11 F3 O2



CM 2

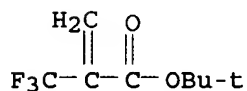
CRN 109-92-2
CMF C4 H8 O



RN 478623-15-3 HCAPLUS
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
polymer with 2,3-dihydrofuran (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8
CMF C8 H11 F3 O2



CM 2

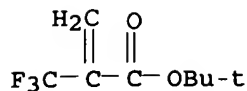
CRN 1191-99-7
CMF C4 H6 O



RN 478623-16-4 HCAPLUS
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
polymer with 1,3-dioxol-2-one (9CI) (CA INDEX NAME)

CM 1

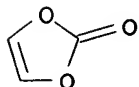
CRN 105935-24-8
CMF C8 H11 F3 O2



CM 2

CRN 872-36-6

CMF C3 H2 O3



IT 608525-58-2P

(copolymer for use in chemical amplification
resists)

RN 608525-58-2 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, polymer with
methoxycyclohexene (9CI) (CA INDEX NAME)

CM 1

CRN 39723-61-0

CMF C7 H12 O

CCI IDS

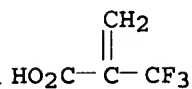


D1-O-Me

CM 2

CRN 381-98-6

CMF C4 H3 F3 O2



IC ICM G03F007-038

INCL 430270100; 430325000; 430907000

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38

ST copolymer chem amplification photoresist

IT Photoresists

(copolymer for use in chemical amplification

resists)
 IT 478623-13-1P 478623-14-2P 478623-15-3P
 478623-16-4P 608525-59-3P
 (copolymer for use in chemical amplification
 resists)
 IT 608525-58-2P
 (copolymer for use in chemical amplification
 resists)
 IT 335-08-0P, 1,1,1-Trifluoroacetone cyanohydrin 381-84-0P,
 2-(Trifluoromethyl)Acrylonitrile 381-98-6P, 2-
 (Trifluoromethyl)Acrylic Acid 382-90-1P, Methyl
 α -(Trifluoromethyl)acrylate 4588-51-6P
 (preparation of copolymer for use in chemical amplification
 resists)
 IT 79-37-8, Oxalyl chloride 108-24-7, Acetic anhydride 143-33-9,
 Sodium cyanide 421-50-1, 1,1,1-Trifluoroacetone
 (preparation of copolymer for use in chemical amplification
 resists)
 IT 382-43-4P, 3-Hydroxy-2-(trifluoromethyl)propionic acid
 105935-24-8P
 (preparation of copolymer for use in chemical amplification
 resists)

L31 ANSWER 4 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:717781 HCAPLUS
 DOCUMENT NUMBER: 139:237717
 TITLE: Polymer blend and associated methods of
 preparation and use
 INVENTOR(S): Breyta, Gregory; Ito, Hiroshi; Truong, Hoa D.
 PATENT ASSIGNEE(S): International Business Machines Corporation,
 USA
 SOURCE: U.S. Pat. Appl. Publ., 20 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2003171490	A1	20030911	US 2002-90646	2002 0304
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US 6794110	B2	20040921		
JP 2003292716	A2	20031015	JP 2003-49993	2003 0226

PRIORITY APPLN. INFO.: US 2002-90646 A
 2002
 0304

AB A polymer blend is provided for use in a lithog. photoresist
 composition, particularly a chemical amplification
 photoresist. In a preferred embodiment, the polymer blend
 is substantially transparent to deep UV radiation, i.e., radiation
 of a wavelength less than 250 nm, including wavelengths of 157 nm,
 193 nm and 248 nm, and has improved sensitivity and resolution

Processes for preparing and using the polymer blend are also provided, as are lithog. photoresist compns. that contain the polymer blend.

IT 370866-15-2P 478623-16-4P 594855-58-0P
594855-59-1P

(polymer blend for photoresist composition)

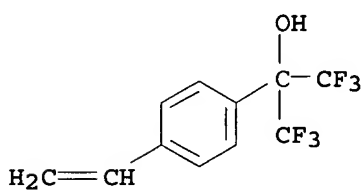
RN 370866-15-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with
4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol
(9CI) (CA INDEX NAME)

CM 1

CRN 2386-82-5

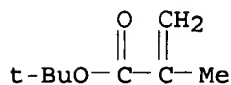
CMF C11 H8 F6 O



CM 2

CRN 585-07-9

CMF C8 H14 O2



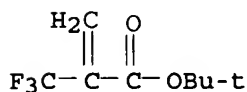
RN 478623-16-4 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
polymer with 1,3-dioxol-2-one (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8

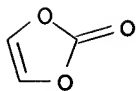
CMF C8 H11 F3 O2



CM 2

CRN 872-36-6

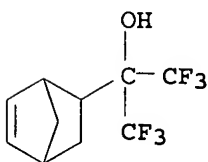
CMF C3 H2 O3



RN 594855-58-0 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
 polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-methanol (9CI) (CA INDEX NAME)

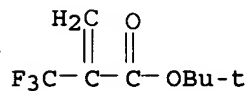
CM 1

CRN 369375-16-6
 CMF C10 H10 F6 O



CM 2

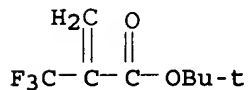
CRN 105935-24-8
 CMF C8 H11 F3 O2



RN 594855-59-1 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
 polymer with dihydrofuran (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8
 CMF C8 H11 F3 O2



CM 2

CRN 36312-17-1
 CMF C4 H6 O
 CCI IDS

CM 3

CRN 109-99-9
CMF C4 H8 O



IC ICM G03F007-038
ICS C08L001-00
INCL 525050000; 430270100; 430907000
CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38
IT Photoresists
(polymer blend for photoresist composition)
IT Polymer blends
(polymer blend for photoresist composition)
IT Photolithography
(vacuum UV; polymer blend for photoresist composition)
IT 370866-15-2P 478623-16-4P 594855-58-0P
594855-59-1P
(polymer blend for photoresist composition)
IT 370102-75-3
(polymer blend for photoresist composition)
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L31 ANSWER 5 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:367023 HCAPLUS
DOCUMENT NUMBER: 138:376411
TITLE: Polymer for chemical amplification
-type resist
INVENTOR(S): Fujiwara, Tadayuki; Kuwano, Hideaki; Wakisaka,
Yukiya; Kamon, Yoshihiro
PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003140346	A2	20030514	JP 2001-338138	2001 1102

PRIORITY APPLN. INFO.: <-- JP 2001-338138
2001
1102

AB The polymer comprises a monomer with an optical active lactone group as a structural unit and an optional other monomer and becomes soluble in alkaline solution by the action of an acid. The resist contains the polymer and a photo-acid generator. The resist is

useful for laser and electron beam lithog. and shows high resolution

IT 521291-58-7P, (S)- β -Methacryloyloxy- γ -butyrolactone-2-methacryloyloxy-2-methyladamantane copolymer

521291-60-1P, (R)- β -Methacryloyloxy- γ -butyrolactone-2-methacryloyloxy-2-methyladamantane copolymer
(chemical amplification-type photoresist
containing polymer of optically active lactone acrylate)

RN 521291-58-7 HCAPLUS

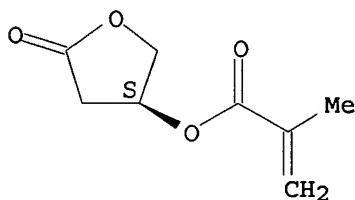
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with (3S)-tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 521291-57-6

CMF C8 H10 O4

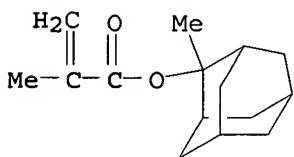
Absolute stereochemistry.



CM 2

CRN 177080-67-0

CMF C15 H22 O2



RN 521291-60-1 HCAPLUS

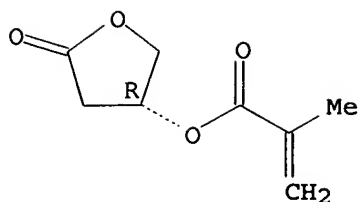
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with (3R)-tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 521291-59-8

CMF C8 H10 O4

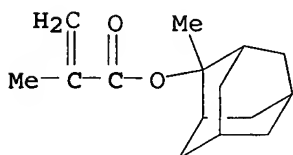
Absolute stereochemistry.



CM 2

CRN 177080-67-0

CMF C15 H22 O2



IC ICM G03F007-039
ICS C08F020-26; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST photoresist optical active lactone acrylate polymer; chem
amplification resist photoacid generator

IT **Photoresists**
(chemical **amplification**-type **photoresist**
containing polymer of optically active lactone acrylate)

IT **521291-58-7P**, (S)- β -Methacryloyloxy- γ -
butyrolactone-2-methacryloyloxy-2-methyladamantane copolymer
521291-60-1P, (R)- β -Methacryloyloxy- γ -
butyrolactone-2-methacryloyloxy-2-methyladamantane copolymer
(chemical **amplification**-type **photoresist**
containing polymer of optically active lactone acrylate)

IT 66003-78-9, Triphenylsulfonium triflate
(photoacid generator; chemical **amplification**-type
photoresist containing polymer of optically active lactone
acrylate)

L31 ANSWER 6 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:41953 HCAPLUS

DOCUMENT NUMBER: 138:115051

TITLE: Photoresist with reaction anchors for a
chemical **amplification** of resist
patterns for exposure with 157 nm

INVENTOR(S): Rottstegge, Joerg; Eschbaumer, Christian;
Hohle, Christoph; Herbst, Waltraud; Sebal, Michael

PATENT ASSIGNEE(S): Infineon Technologies A.-G., Germany

SOURCE: Ger. Offen., 8 pp.
CODEN: GWXXBX

DOCUMENT TYPE: **Patent**

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10131670	A1	20030116	DE 2001-10131670	2001 0629
US 2003087182	A1	20030508	US 2002-186657	2002 0701
US 7033740	B2	20060425	DE 2001-10131670	2001 0629

PRIORITY APPLN. INFO.: <--

AB The invention relates to a chemical amplified resist comprising a film forming polymer, a photoacid generator and a solvent. The film forming polymer contains acid-labile groups and becomes alkaline-soluble upon the reaction with the acid. The film forming polymer comprises polymer structural units, derived from fluoridated monomers, and a group of anchors for the binding of an **amplification** agent. The transparency of the resist is substantially increased by the fluorination of the polymer structural units with an exposure wave length by 157 nm, so that resist patterns with increased coating thickness can be obtained.

IT 390746-59-5P, tert-Butyl methacrylate-2-(trifluoromethyl)acrylic acid copolymer
(photoresist with reaction anchors for a chemical **amplification** of resist patterns for exposure with 157 nm)

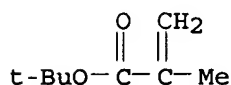
RN 390746-59-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with 2-(trifluoromethyl)-2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 585-07-9

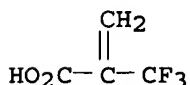
CMF C8 H14 O2



CM 2

CRN 381-98-6

CMF C4 H3 F3 O2



IC ICM G03F007-039
ICS G03F007-38
CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76
ST photoresist chem **amplification resist** pattern
reaction anchor
IT **Photoresists**
(chemical amplified; **photoresist** with reaction anchors
for a chemical **amplification of resist**
patterns for exposure with 157 nm)
IT 390746-59-5P, tert-Butyl methacrylate-2-
(trifluoromethyl)acrylic acid copolymer
(**photoresist** with reaction anchors for a chemical
amplification of resist patterns for exposure
with 157 nm)

L31 ANSWER 7 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:40248 HCAPLUS

DOCUMENT NUMBER: 138:115049

TITLE: Chemically amplified positive photoresist
fluoropolymer compositions with high
resolution and transparency to F2 excimer
laser beams, and their deposition method

INVENTOR(S): Kanna, Shinichi; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.

CODEN: JKXXAF

DOCUMENT TYPE: **Patent**

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

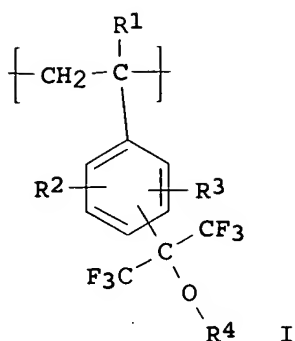
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2003015301	A2	20030117	JP 2001-203565	2001 0704

PRIORITY APPLN. INFO.: <-- JP 2001-203565

2001
0704

<--

GI



AB The compns. comprise (A) fluoropolymers, which increase their alkali-solubility in the presence of acids, having repeating units I (R1 = H, F, alkyl; R2, R3 = H, OH, halo, cyano, alkoxy, aryl, etc.; R4 = H, alkyl, acyl, R5R6COR7, etc.; R5, R6 = H, alkyl, cycloalkyl; R7 = alkyl, cycloalkyl, aralkyl, aryl), (B) photoacid generators, and (C) solvents, wherein the compns. are heated at 110-150° in deposition.

IT 370866-15-2P 462109-81-5P 462109-83-7P
462109-89-3P 487048-93-1P

(F-containing styrene polymers for chemical amplified pos. photoresists with high resolution and transparency to F2 excimer laser beams)

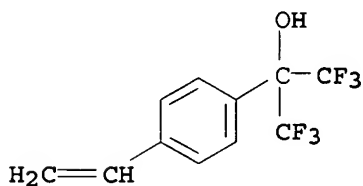
RN 370866-15-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with 4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 2386-82-5

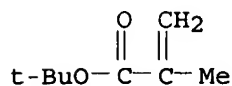
CMF C11 H8 F6 O



CM 2

CRN 585-07-9

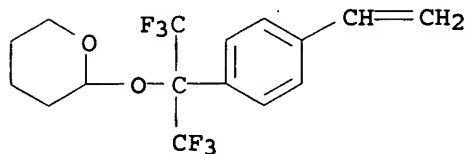
CMF C8 H14 O2



RN 462109-81-5 HCAPLUS
 CN 2-Propenenitrile, 2-methyl-, polymer with 2-[1-(4-ethenylphenyl)-
 2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]tetrahydro-2H-pyran
 (9CI) (CA INDEX NAME)

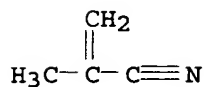
CM 1

CRN 430437-02-8
 CMF C16 H16 F6 O2



CM 2

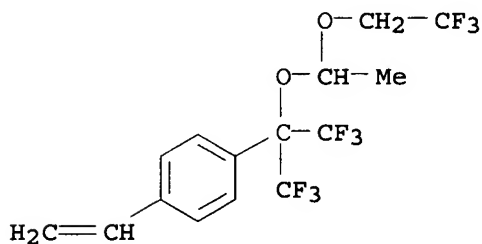
CRN 126-98-7
 CMF C4 H5 N



RN 462109-83-7 HCAPLUS
 CN 2-Propenenitrile, 2-methyl-, polymer with 1-ethenyl-4-[2,2,2-
 trifluoro-1-[1-(2,2,2-trifluoroethoxy)ethoxy]-1-
 (trifluoromethyl)ethyl]benzene (9CI) (CA INDEX NAME)

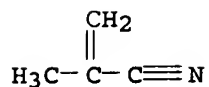
CM 1

CRN 462109-82-6
 CMF C15 H13 F9 O2



CM 2

CRN 126-98-7
 CMF C4 H5 N



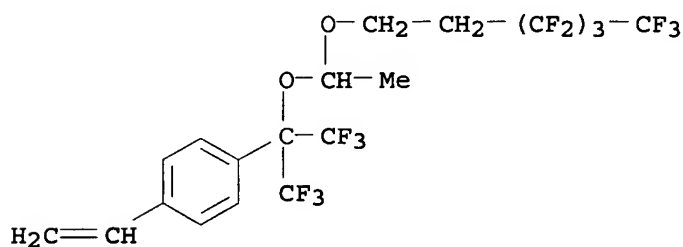
RN 462109-89-3 HCAPLUS

CN 2-Propenenitrile, 2-methyl-, polymer with 1-ethenyl-4-[2,2,2-trifluoro-1-[1-[(3,3,4,4,5,5,6,6,6-nonafluorohexyl)oxy]ethoxy]-1-(trifluoromethyl)ethyl]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 462109-88-2

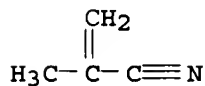
CMF C19 H15 F15 O2



CM 2

CRN 126-98-7

CMF C4 H5 N



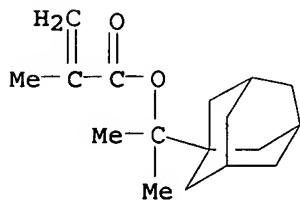
RN 487048-93-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with 4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 279218-76-7

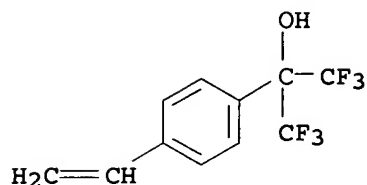
CMF C17 H26 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



IC ICM G03F007-039
ICS C08F012-14; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)

ST pos photoresist fluorine excimer laser transparency; chem
amplification photoresist resolu excimer laser;
styrene fluoropolymer photoresist fluorine excimer laser

IT Positive photoresists
(F-containing styrene polymers for chemical amplified pos.
photoresists with high resolution and transparency to F2
excimer laser beams)

IT Fluoropolymers, processes
(F-containing styrene polymers for chemical amplified pos.
photoresists with high resolution and transparency to F2
excimer laser beams)

IT 109-92-2DP, Ethyl vinyl ether, ethers with F-containing acrylic
styrene polymers 370866-15-2P 397302-29-3P
430437-01-7DP, ethers with Et vinyl ether 430437-07-3P
462109-81-5P 462109-83-7P 462109-85-9P
462109-89-3P 462109-91-7P 462109-95-1P 487048-75-9P
487048-76-0P 487048-77-1P 487048-78-2P 487048-79-3P
487048-81-7P 487048-82-8P 487048-83-9P 487048-85-1P
487048-86-2P 487048-87-3P 487048-88-4P 487048-89-5P
487048-90-8P 487048-92-0P 487048-93-1P 487048-94-2P
487048-95-3P
(F-containing styrene polymers for chemical amplified pos.
photoresists with high resolution and transparency to F2
excimer laser beams)

L31 ANSWER 8 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:850191 HCAPLUS

DOCUMENT NUMBER: 137:360314

TITLE: Fluorine-containing styrene acrylate
copolymers and use thereof in lithographic
photoresist compositionsINVENTOR(S): Allen, Robert David; Brock, Phillip Joe; Ito,
Hiroshi; Wallraff, Gregory MichaelPATENT ASSIGNEE(S): International Business Machines Corporation,
USA

SOURCE: U.S. Pat. Appl. Publ., 18 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002164538	A1	20021107	US 2001-794466	2001 0226
US 6610456	B2	20030826	US 2001-794466	2001 0226

PRIORITY APPLN. INFO.: <--

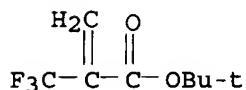
AB Copolymers are prepared by radical polymerization of a fluorine-containing aromatic monomer and an acrylate-based comonomer that may or may not be fluorinated. The polymers are useful in lithog. photoresist compns., particularly chemical **amplification** **resists**. The polymers are substantially transparent to deep UV (DUV) radiation, i.e., radiation of a wavelength < 250 nm, including 157 nm and 248 nm radiation, and are thus useful in DUV lithog. photoresist compns. A method for using the composition to generate resist images on a substrate is also provided, i.e., in the manufacture of integrated circuits or the like.

IT 370866-13-0P, tert-Butyl α -trifluoromethylacrylate-p-(Hexafluoro-2-hydroxypropyl)styrene copolymer 370866-15-2P, p-(Hexafluoro-2-hydroxypropyl)styrene-tert-butyl methacrylate copolymer
(fluorine-containing styrene acrylate copolymers for lithog. photoresist compns.)

RN 370866-13-0 HCAPLUS
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

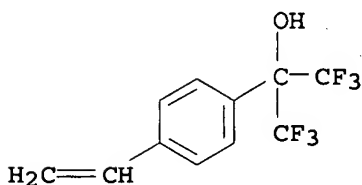
CM 1

CRN 105935-24-8
CMF C8 H11 F3 O2



CM 2

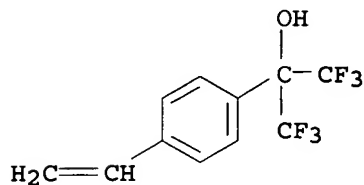
CRN 2386-82-5
CMF C11 H8 F6 O



RN 370866-15-2 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with
 4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol
 (9CI) (CA INDEX NAME)

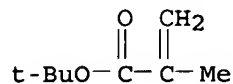
CM 1

CRN 2386-82-5
 CMF C11 H8 F6 O



CM 2

CRN 585-07-9
 CMF C8 H14 O2



IC ICM G03F007-038
 ICS G03F007-20; G03F007-26
 INCL 430270100
 CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 35, 38, 76
 IT Photolithography
 (UV vacuum; fluorine-containing styrene acrylate copolymers and use
 thereof in lithog. **photoresist** compns.)
 IT **Photoresists**
 (fluorine-containing styrene acrylate copolymers and use thereof in
 lithog. **photoresist** compns.)
 IT Semiconductor device fabrication
 (fluorine-containing styrene acrylate copolymers for lithog.
photoresist compns.)
 IT **370866-13-0P**, tert-Butyl α -trifluoromethylacrylate-p-
 (Hexafluoro-2-hydroxypropyl)styrene copolymer **370866-15-2P**
 , p-(Hexafluoro-2-hydroxypropyl)styrene-tert-butyl methacrylate
 copolymer
 (fluorine-containing styrene acrylate copolymers for lithog.
photoresist compns.)
 IT 474635-14-8P 474635-15-9P 474635-16-0P 474635-17-1P
 (fluorine-containing styrene acrylate copolymers for lithog.
photoresist compns.)
 IT 240435-11-4
 (photoacid generator; fluorine-containing styrene acrylate
 copolymers for lithog. **photoresist** compns.)

IT 335-08-0P, 1,1,1-Trifluoroacetone cyanohydrin 381-84-0P,
 2-(Trifluoromethyl)acrylonitrile 382-90-1P, Methyl
 α -(trifluoromethyl)acrylate
 (preparation of fluorine-containing styrene acrylate copolymers for
 lithog. photoresist compns.)

IT 75-65-0, t-Butanol, reactions 79-37-8, Oxalyl chloride
 108-24-7, Acetic anhydride 143-33-9, Sodium cyanide 421-50-1,
 1,1,1-Trifluoroacetone 684-16-2, Hexafluoroacetone 2039-82-9,
 4-Bromostyrene
 (preparation of fluorine-containing styrene acrylate copolymers for
 lithog. photoresist compns.)

IT 337-16-6P 381-98-6P, 2-(Trifluoromethyl)acrylic acid
 382-43-4P, 3-Hydroxy-2-(Trifluoromethyl)propionic acid
 2386-82-5P 4588-51-6P 105935-24-8P
 (preparation of fluorine-containing styrene acrylate copolymers for
 lithog. photoresist compns.)

L31 ANSWER 9 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:807548 HCAPLUS

DOCUMENT NUMBER: 137:331078

TITLE: Radiation-sensitive resin composition
 containing polycyclic compound for chemical
amplification resist

INVENTOR(S): Yamamoto, Masashi; Ishida, Hidemitsu; Ishii,
 Hiroyuki; Kajita, Toru

PATENT ASSIGNEE(S): JSR Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 61 pp.

CODEN: JKXXAF

DOCUMENT TYPE: **Patent**

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002311590	A2	20021023	JP 2001-113462	2001 0412

PRIORITY APPLN. INFO.: <-- JP 2001-113462

2001
0412

<--

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT

*

AB The radiation-sensitive resin composition comprises (1) a hardly alkaline soluble resin or a alkaline insol. resin, which, becoming alkaline soluble by reaction with an acid, has repeating units selected from I, II, III (R1,3,5 = H, Me; R2,4,6 = H, C1-4alkyl; X = methylene, O, S; a = integer 1-5) and a repeating unit [CR7(COOCR83)CH2] (R7 = H, Me; R8 = C4-20 monovalent aliphatic hydrocarbon, etc.), (2) an photoacid, and (3) a polycyclic compound having the mol. weight $\leq 1,000$. The radiation-sensitive resin composition provided a fine pattern when

it is used as a far-UV photoresist.

IT 195000-69-2P

(far-UV chemical **amplification**-type photoresist
resin composition from)

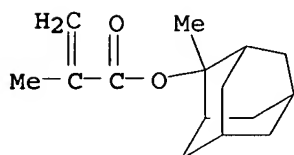
RN 195000-69-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl
ester, polymer with tetrahydro-5-oxo-3-furanyl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

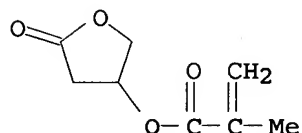
CMF C15 H22 O2



CM 2

CRN 130224-95-2

CMF C8 H10 O4



IC ICM G03F007-039

ICS C08F220-18; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38

ST chem **amplification resist** resin compn
polycyclic compd; far UV photoresist compn

IT **Photoresists**

(far-UV chemical **amplification**-type photoresist
resin composition containing polycyclic compound)

IT 1148-79-4, 2,2':6',2''-Terpyridine 193810-83-2,
N-tert-Butoxycarbonyl-2-phenylbenzimidazole 330576-56-2,
N-t-Butoxycarbonyldicyclohexylamine

(acid diffusion suppressing agent; far-UV chemical
amplification-type photoresist resin composition
from)

IT 195000-69-2P 340964-38-7P 340964-44-5P 473699-88-6P
473699-89-7P

(far-UV chemical **amplification**-type photoresist
resin composition from)

IT 157692-53-0, tert-Butyl deoxycholate 213901-06-5 231296-44-9
(far-UV chemical **amplification**-type photoresist
resin composition from)

IT 194999-85-4 209482-18-8 307531-76-6 380886-84-0
 (photoacid; far-UV chemical **amplification**-type
photoresist resin composition from)
 IT 96-48-0, γ -Butyrolactone 108-94-1, Cyclohexanone, uses
 110-43-0, 2-Heptanone 84540-57-8, Propylene glycol monomethyl
 ether acetate
 (solvent; far-UV chemical **amplification**-type
photoresist resin composition from)

L31 ANSWER 10 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:778584 HCAPLUS

DOCUMENT NUMBER: 137:302228

TITLE: Chemically amplified photoresist compositions
 comprising norbornene fluoroacrylate
 copolymers and photolithographic process

INVENTOR(S): Ito, Hiroshi; Miller, Dolores Carlotta; Brock,
 Phillip Joe; Wallraff, Gregory Michael

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 16 pp.

CODEN: USXXCO

DOCUMENT TYPE: **Patent**

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002146638	A1	20021010	US 2001-771149	2001 0126
US 6509134	B2	20030121	US 2001-771149	2001 0126

AB Novel norbornene fluoroacrylate copolymers are provided. The
 polymers are useful in lithog. photoresist compns., particularly
 chemical **amplification resists**. In a preferred
 embodiment, the polymers are substantially transparent to deep UV
 (DUV) radiation, i.e., radiation of a wavelength less than 250 nm,
 including 157 nm, 193 nm and 248 nm radiation, and are thus useful
 in DUV lithog. photoresist compns. A process for using the composition
 to generate resist images on a substrate is also provided, i.e.,
 in the manufacture of integrated circuits or the like.

IT 370866-19-6P, Norbornene-2-(Trifluoromethyl)acrylic acid
 copolymer 370866-24-3P
 (chemical amplified **photoresist** compns. comprising
 norbornene fluoroacrylate copolymers)

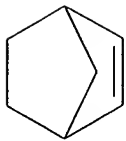
RN 370866-19-6 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, polymer with
 bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

CM 1

CRN 498-66-8

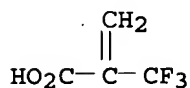
CMF C7 H10



CM 2

CRN 381-98-6

CMF C4 H3 F3 O2



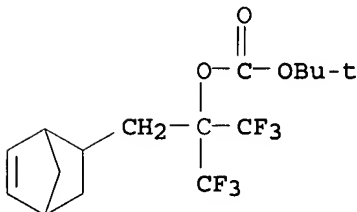
RN 370866-24-3 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, methyl ester, polymer with
 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-
 (trifluoromethyl)ethyl 1,1-dimethylethyl carbonate (9CI) (CA
 INDEX NAME)

CM 1

CRN 196314-63-3

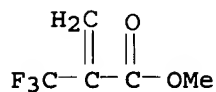
CMF C16 H20 F6 O3



CM 2

CRN 382-90-1

CMF C5 H5 F3 O2



IC ICM G03F007-038

ICS G03F007-26

INCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 37, 38, 76

IT Photoresists

(UV; chemical amplified **photoresist** compns. comprising norbornene fluoroacrylate copolymers)

IT Photolithography
(UV; chemical amplified **photoresist** compns. comprising norbornene fluoroacrylate copolymers and photolithog. process)

IT Fluoropolymers, properties
(chemical amplified **photoresist** compns. comprising norbornene fluoroacrylate copolymers)

IT Semiconductor device fabrication
(chemical amplified **photoresist** compns. comprising norbornene fluoroacrylate copolymers and photolithog. process in relation to)

IT 370866-19-6P, Norbornene-2-(Trifluoromethyl)acrylic acid copolymer 370866-24-3P 469904-69-6P
(chemical amplified **photoresist** compns. comprising norbornene fluoroacrylate copolymers)

IT 335-08-0P, 1,1,1-Trifluoroacetone cyanohydrin 381-84-0P, 2-(Trifluoromethyl)acrylonitrile 381-98-6P, 2-(Trifluoromethyl)acrylic acid 382-43-4P, 3-Hydroxy-2-(trifluoromethyl)propionic acid 382-90-1P, Methyl 2-(Trifluoromethyl)acrylate 4588-51-6P 105935-24-8P 196314-61-1P 196314-63-3P 370866-43-6P 469904-68-5P
(in preparation of copolymers for chemical amplified **photoresist** compns.)

IT 79-37-8, Oxalyl chloride 421-50-1, 1,1,1-Trifluoroacetone 542-92-7, Cyclopentadiene, reactions 684-16-2
(in preparation of copolymers for chemical amplified **photoresist** compns.)

IT 337-16-6P 428-18-2P
(in preparation of copolymers for chemical amplified **photoresist** compns.)

L31 ANSWER 11 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:673047 HCAPLUS

DOCUMENT NUMBER: 137:224108

TITLE: Storage-stable excimer laser-sensitive positive-working photosensitive compositions with reduced pattern variation on defocusing

INVENTOR(S): Kodama, Kunihiro; Sato, Kenichiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 86 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002251012	A2	20020906	JP 2001-48784	2001 0223
			<--	
US 2003017415	A1	20030123	US 2002-79414	2002 0222
			<--	
US 6858370	B2	20050222		
TW 548523	B	20030821	TW 2002-91103178	

2002
0222

PRIORITY APPLN. INFO.: <-- JP 2001-48602 A 2001
0223

<-- JP 2001-48783 A 2001
0223

<-- JP 2001-48784 A 2001
0223

<-- JP 2001-48880 A 2001
0223

<-- JP 2001-157366 A 2001
0525

<-- JP 2001-157367 A 2001
0525

<--

AB The comps. comprise (A) photoacid generators, (B) resins containing alicyclic hydrocarbon structures, which increase their alkali solubility by acid decomposition, (C) base compds., and (D) fluoro- and/or silicone-based surfactants, wherein the photoacid generator is a mixture of triarylsulfonium salts and non-aromatic sulfonium salts. The comps. are useful for chemical amplified photoresists suitable for halftone phase-shift masks.

IT 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl methacrylate copolymer
(chemical amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)

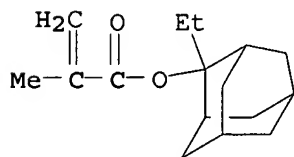
RN 250378-10-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

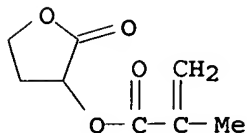
CRN 209982-56-9

CMF C16 H24 O2



CM 2

CRN 195000-66-9
CMF C8 H10 O4



IC ICM G03F007-039
ICS C08K005-00; C08K005-36; C08L101-00; G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
ST pos photoresist excimer laser storage stability; chem
amplification photoresist arylsulfonium
photoacid generator
IT Positive photoresists
(UV; chemical amplified storage-stable excimer laser-sensitive
pos. photoresists with reduced pattern variation on
defocusing)
IT Sulfonium compounds
(arene, photoacid generators; chemical amplified storage-stable
excimer laser-sensitive pos. photoresists with
reduced pattern variation on defocusing)
IT Surfactants
(fluorosurfactants; chemical amplified storage-stable excimer
laser-sensitive pos. photoresists with reduced
pattern variation on defocusing)
IT Cycloalkenes
(polymers; chemical amplified storage-stable excimer
laser-sensitive pos. photoresists with reduced
pattern variation on defocusing)
IT Aromatic compounds
(sulfonium, photoacid generators; chemical amplified
storage-stable excimer laser-sensitive pos.
photoresists with reduced pattern variation on
defocusing)
IT Polysiloxanes, uses
(surfactant; chemical amplified storage-stable excimer
laser-sensitive pos. photoresists with reduced
pattern variation on defocusing)
IT 66003-78-9 144317-44-2 177034-80-9 258872-05-8 284474-28-8
338445-24-2 391232-40-9 398141-18-9 421555-72-8
(aromatic sulfonyl photoacid generator; chemical amplified
storage-stable excimer laser-sensitive pos.
photoresists with reduced pattern variation on
defocusing)
IT 484-47-9, 2,4,5-Triphenylimidazole 621-77-2, Tripentylamine
3001-72-7, 1,5-Diazabicyclo[4.3.0]non-5-ene 3040-44-6,
1-Piperidineethanol 19293-63-1, Dicyclohexylmethylamine
19600-49-8, Triphenylsulfonium acetate
(base compound; chemical amplified storage-stable excimer
laser-sensitive pos. photoresists with reduced
pattern variation on defocusing)
IT 3744-08-9P, Triphenylsulfonium iodide 303177-16-4P
(chemical amplified storage-stable excimer laser-sensitive pos.
photoresists with reduced pattern variation on

- defocusing)
- IT 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl methacrylate copolymer 288303-55-9P 364736-22-1P
 391232-36-3P 391613-77-7P 398140-36-8P 398140-38-0P
 398140-40-4P 398140-43-7P 398140-45-9P 398140-50-6P
 398140-52-8P 398140-54-0P 398140-55-1P 398140-57-3P
 398140-59-5P 398140-60-8P 398140-62-0P 398140-64-2P
 398140-65-3P 398140-68-6P 398140-69-7P 398140-71-1P
 398140-72-2P 398140-73-3P 398140-74-4P 398140-75-5P
 398140-76-6P 398140-77-7P 398140-78-8P 398140-79-9P
 398140-80-2P 398140-81-3P 398140-82-4P 398140-84-6P
 398140-85-7P 398140-86-8P 398140-87-9P 398140-88-0P,
 tert-Butyl norbornenecarboxylate-maleic anhydride-2-methyl-2-adamantyl acrylate-norbornenelactone acrylate copolymer
 398140-89-1P 398140-90-4P 398140-91-5P 398140-92-6P
 398140-93-7P 398140-94-8P 398140-95-9P 398140-97-1P
 398140-98-2P 398140-99-3P 398141-00-9P 398141-03-2P
 398141-04-3P 398141-06-5P 398141-07-6P 398141-08-7P
 398141-10-1P 398141-11-2P 398141-13-4P 398141-14-5P
 398141-16-7P 398152-52-8P 405509-18-4P 405509-29-7P
 405509-30-0P 455521-67-2P 455521-72-9P
 (chemical amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)
- IT 71-43-2, Benzene, reactions 110-01-0, Tetrahydrothiophene
 945-51-7, Diphenylsulfoxide 1763-23-1, Perfluorooctanesulfonic acid 5469-26-1, 1-Bromo-3,3-dimethyl-2-butanone 12027-06-4, Ammonium iodide 29420-49-3, Potassium perfluorobutanesulfonate 218151-20-3 455947-79-2
 (chemical amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)
- IT 160481-39-0 301153-78-6 371921-65-2 383367-32-6
 393171-41-0 455521-76-3 455521-81-0 455521-85-4
 455521-89-8
 (non-aromatic sulfonyl photoacid generator; chemical amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)
- IT 171292-12-9
 (photoacid generator; chemical amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)
- IT 144089-15-6P 241806-75-7P 347193-29-7P
 (photoacid generator; chemical amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)
- IT 96-48-0, γ -Butyrolactone 97-64-3, Ethyl lactate
 108-94-1, Cyclohexanone, uses 110-43-0, 2-Heptanone 763-69-9
 1320-67-8, Propylene glycol methyl ether 84540-57-8, Propylene glycol methyl ether acetate
 (solvent; chemical amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)
- IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
 (surfactant; chemical amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)

ACCESSION NUMBER: 2002:575606 HCAPLUS
 DOCUMENT NUMBER: 137:132114
 TITLE: Substituted norbornene fluoroacrylate
 copolymers and use thereof lithographic
 photoresist compositions
 INVENTOR(S): Ito, Hiroshi; Brock, Phillip Joe; Wallraff,
 Gregory Michael
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 12 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002102490	A1	20020801	US 2001-771262	2001 0126
US 6548219	B2	20030415	US 2001-771262	2001 0126

AB Copolymers prepared by radical polymerization of a substituted norbornene monomer and a fluoromethacrylic acid, fluoromethacrylonitrile, or fluoromethacrylate comonomer are provided. The polymers are useful in lithog. photoresist compns., particularly chemical amplification resists. In a preferred embodiment, the polymers are substantially transparent to deep UV (DUV) radiation, i.e., radiation of a wavelength < 250 nm, including 157 nm, 193 nm and 248 nm radiation, and are thus useful in DUV lithog. photoresist compns. A process for using the composition to generate resist images on a substrate is also provided, i.e., in the manufacture of integrated circuits or the like.

IT 370866-19-6P
 (substituted norbornene fluoroacrylate copolymers for lithog. photoresist compns.)

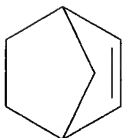
RN 370866-19-6 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, polymer with
 bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

CM 1

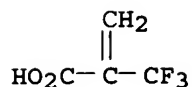
CRN 498-66-8

CMF C7 H10

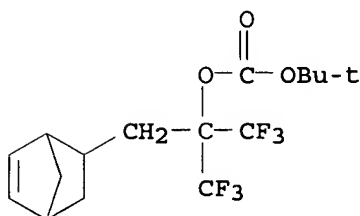


CM 2

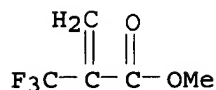
CRN 381-98-6
CMF C4 H3 F3 O2



IT 370866-24-3P
(substituted norbornene fluoroacrylate copolymers for lithog.
photoresist compns.)
RN 370866-24-3 HCAPLUS
CN, 2-Propenoic acid, 2-(trifluoromethyl)-, methyl ester, polymer with
1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-
(trifluoromethyl)ethyl 1,1-dimethylethyl carbonate (9CI) (CA
INDEX NAME)
CM 1
CRN 196314-63-3
CMF C16 H20 F6 O3



CM 2
CRN 382-90-1
CMF C5 H5 F3 O2



IC ICM G03F007-039
ICS G03F007-30
INCL 430270100
CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38
IT Photolithography
(UV; substituted norbornene fluoroacrylate copolymers for
lithog. photoresist compns.)
IT Photoresists
(substituted norbornene fluoroacrylate copolymers for lithog.
photoresist compns.)
IT 335-08-0P, 1,1,1-Trifluoroacetone cyanohydrin 381-84-0P,

2-(Trifluoromethyl)acrylonitrile 382-90-1P 196314-61-1P
 196314-63-3P 214079-66-0P
 (preparation of substituted norbornene fluoroacrylate copolymers for lithog. photoresist compns.)

IT 57-12-5, Cyanide, reactions 75-65-0, tert-Butanol, reactions
 79-37-8, Oxalyl chloride 108-24-7, Acetic anhydride 421-50-1,
 1,1,1-Trifluoroacetone 542-92-7, Cyclopentadiene, reactions
 1314-56-3, Phosphorus pentoxide, reactions
 (preparation of substituted norbornene fluoroacrylate copolymers for lithog. photoresist compns.)

IT 337-16-6P 381-98-6P, 2-(Trifluoromethyl)acrylic acid
 382-43-4P, 3-Hydroxy-2-(trifluoromethyl)propionic acid 428-18-2P
 4588-51-6P 105935-24-8P
 (preparation of substituted norbornene fluoroacrylate copolymers for lithog. photoresist compns.)

IT 370866-19-6P
 (substituted norbornene fluoroacrylate copolymers for lithog. photoresist compns.)

IT 370866-24-3P 370866-47-0P
 (substituted norbornene fluoroacrylate copolymers for lithog. photoresist compns.)

L31 ANSWER 13 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:449670 HCAPLUS

DOCUMENT NUMBER: 137:39324

TITLE: (Meth)acrylate esters, starting alcohols for the preparation thereof, processes for preparing both, polymers of the esters, chemically amplifiable resist compositions, and method for forming patterns

INVENTOR(S): Kamon, Yoshihiro; Fujiwara, Tadayuki; Kuwano, Hideaki; Momose, Hikaru; Koizumi, Atsushi

PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan

SOURCE: PCT Int. Appl., 109 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002046179	A1	20020613	WO 2001-JP10628	2001 1205
WO 2002046179	C1	20020808	<--	
W: KR, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
JP 2002234882	A2	20020823	JP 2001-366958	2001 1130
JP 2002275215	A2	20020925	JP 2001-368904	2001 1203
EP 1352904	A1	20031015	EP 2001-999568	

2001
1205

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, FI, CY, TR

TW 583182

B

20040411

TW 2001-90130267

2001
1206

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US 2004063882

A1

20040401

US 2003-433570

2003
0605

<--

US 2005113538

A1

20050526

US 2004-974876

2004
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PRIORITY APPLN. INFO.:

JP 2000-371712

A

2000
1206

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JP 2001-1728

A

2001
0109

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JP 2001-366958

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1203

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WO 2001-JP10628

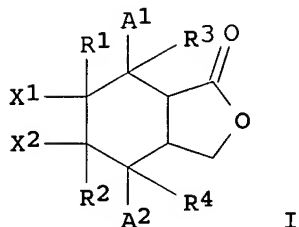
W

2001
1205

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OTHER SOURCE(S):
GI

MARPAT 137:39324



AB (Meth)acrylate esters are represented by the general formula I (R1-4 = H, Me, Et; one of X1 and X2 is (meth)acryloyloxy and the other is H; A1 and A2 are H or form O, CH2, CH2CH2). These esters can be prepared by preparing a product of addition of a 1,3-diene with maleic anhydride by Diels-Alder reaction, reducing this product into a lactone, hydrating this lactone into an alc., and

esterifying this alc. with (meth)acrylic acid. The (co)polymers produced by polymerizing monomer compns. containing the (meth)acrylate esters are excellent in transparency, dry-etching resistance, and solubility in organic solvents, and useful as resins for chemical amplifiable resist compns.

IT 436852-43-6P 436852-44-7P 436852-45-8P
436852-46-9P

(preparation of (meth)acrylate-based chemical amplification
-type resist)

RN 436852-43-6 HCAPLUS

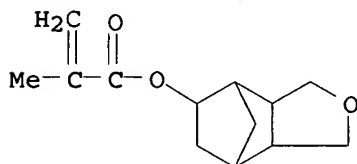
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with octahydro-1(or 3)-oxo-4,7-methanoisobenzofuran-5-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 436852-34-5

CMF C13 H16 O4

CCI IDS

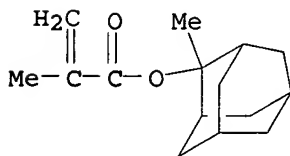


D2=O

CM 2

CRN 177080-67-0

CMF C15 H22 O2



RN 436852-44-7 HCAPLUS

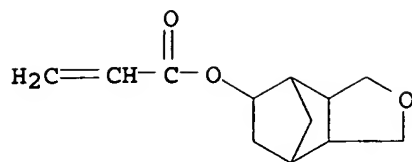
CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with octahydro-1(or 3)-oxo-4,7-methanoisobenzofuran-5-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 436852-35-6

CMF C12 H14 O4

CCI IDS

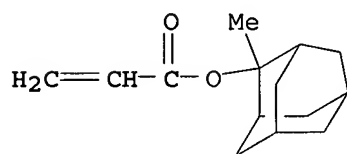


D2=O

CM 2

CRN 249562-06-9

CMF C14 H20 O2



RN 436852-45-8 HCAPLUS

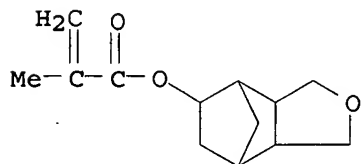
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1.3,7]dec-2-yl ester, polymer with octahydro-1(or 3)-oxo-4,7-methanoisobenzofuran-5-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 436852-34-5

CMF C13 H16 O4

CCI IDS

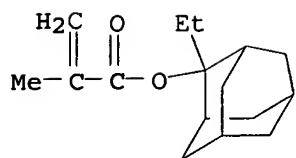


D2=O

CM 2

CRN 209982-56-9

CMF C16 H24 O2



RN 436852-46-9 HCAPLUS

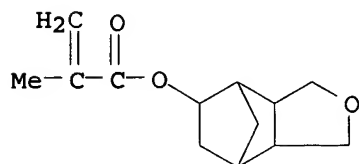
CN 2-Propenoic acid, 2-methyl-, 1-methyl-1-tricyclo[3.3.1.1.3,7]dec-1-ylethyl ester, polymer with octahydro-1(or 3)-oxo-4,7-methanoisobenzofuran-5-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 436852-34-5

CMF C13 H16 O4

CCI IDS

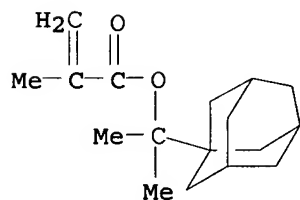


D2=O

CM 2

CRN 279218-76-7

CMF C17 H26 O2



IC ICM C07D307-93

ICS C07D307-88; C07D493-18; C07D307-77; C07D493-18; C07D307-04; C07D307-33

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 27, 35, 38

ST methacrylate acrylate ester copolymer electron beam resist
photoresist; chem amplification resist

IT Electron beam resists
Photoresists

((meth)acrylate-based chemical **amplification-type resist**)

IT Diels-Alder reaction
(preparation of (meth)acrylate-based chemical **amplification-type resist**)

IT 66003-78-9, Triphenylsulfoniumtriflate
(photoacid; (meth)acrylate-based chemical **amplification-type resist**)

IT 80-62-6, Methyl methacrylate 85-43-8 108-31-6, Maleic anhydride, reactions 760-93-0, Methacrylic anhydride 826-62-0, 5-Norbornene-2,3-dicarboxylic anhydride 920-46-7, Methacrylic acid chloride 6118-51-0, exo-3,6-Epoxy-1,2,3,6-tetrahydrophthalic anhydride 25134-21-8, Methyl-5-norbornene-2,3-dicarboxylic anhydride
(preparation of (meth)acrylate-based chemical **amplification-type resist**)

IT 24327-08-0P, endo-Bicyclo[2.2.2]octo-5-ene-2,3-dicarboxylic anhydride 85718-44-1P, 4-Oxatricyclo[5.2.1.0^{2,6}]-8-decene-3-one
436852-32-3P 436852-33-4P 436852-34-5P 436852-35-6P
436852-36-7P 436852-37-8P 436852-38-9P 436852-40-3P
436852-41-4P 436852-42-5P
(preparation of (meth)acrylate-based chemical **amplification-type resist**)

IT 436852-43-6P 436852-44-7P 436852-45-8P
436852-46-9P 436852-47-0P 436852-48-1P 436852-49-2P
436852-50-5P 436852-51-6P 436852-52-7P 436852-54-9P
436852-57-2P 436852-59-4P
(preparation of (meth)acrylate-based chemical **amplification-type resist**)

IT 97-64-3, Ethyl lactate 84540-57-8, Propylene glycol monomethylether acetate
(preparation of (meth)acrylate-based chemical **amplification-type resist**)

IT 68-12-2, N,N-Dimethylformamide, uses 108-65-6, 2-Acetoxy-1-methoxypropane 109-99-9, Tetrahydrofuran, uses 123-91-1, 1,4-Dioxane, uses
(solvent; preparation of (meth)acrylate-based chemical **amplification-type resist**)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 14 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:349275 HCAPLUS

DOCUMENT NUMBER: 136:377476

TITLE: Chemically amplified positive-working photoresist compositions for excimer laser development with high sensitivity and resolution

INVENTOR(S): Fujimori, Toru; Tan, Shiro; Nakao, Hajime

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002131910

A2

20020509

JP 2000-325915

2000

1025

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PRIORITY APPLN. INFO.:

JP 2000-325915

2000

1025

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AB The compns. comprise (A) photoacid generators, (B) resins having alicyclic hydrocarbon structures, which are decomposed by acids to increase their alkali-solubility, and (C) RWC02B (R = alkyl, alicyclic ring-containing group; W = divalent organic group; B = acid-decomposable group). The photoresists are useful for micro-photofabrication by far UV radiation at ≤ 250 nm wavelength.

IT 177080-68-1P 195000-67-0P 297156-40-2P

324770-96-9P 357413-69-5P 357413-70-8P

(chemical amplified pos. photoresists for ArF excimer laser development with high sensitivity and resolution)

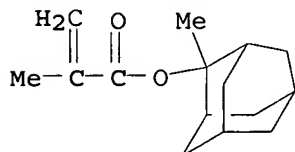
RN 177080-68-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

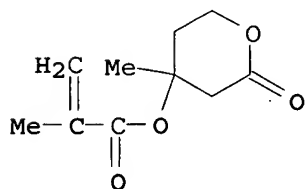
CMF C15 H22 O2



CM 2

CRN 177080-66-9

CMF C10 H14 O4

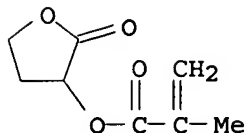


RN 195000-67-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

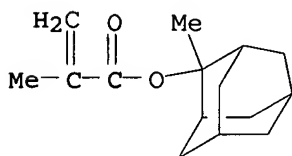
CM 1

CRN 195000-66-9
CMF C8 H10 O4



CM 2

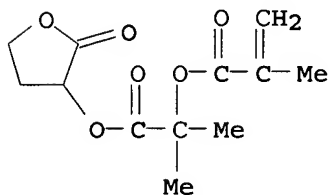
CRN 177080-67-0
CMF C15 H22 O2



RN 297156-40-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,1-dimethyl-2-oxo-2-[(tetrahydro-2-oxo-3-furanyl)oxy]ethyl ester, polymer with 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl 2-methyl-2-propenoate (9CI)
(CA INDEX NAME)

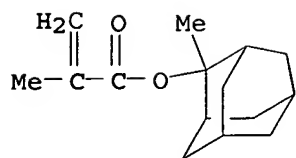
CM 1

CRN 288303-54-8
CMF C12 H16 O6



CM 2

CRN 177080-67-0
CMF C15 H22 O2



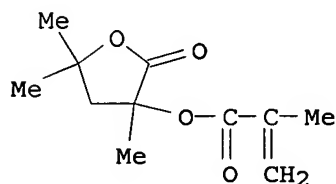
RN 324770-96-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl ester, polymer with tetrahydro-3,5,5-trimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 324761-21-9

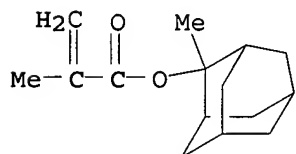
CMF C11 H16 O4



CM 2

CRN 177080-67-0

CMF C15 H22 O2



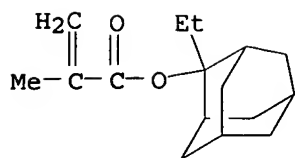
RN 357413-69-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1.3,7]dec-2-yl ester, polymer with tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

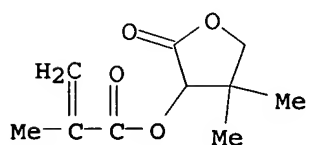
CMF C16 H24 O2



CM 2

CRN 156938-13-5

CMF C10 H14 O4



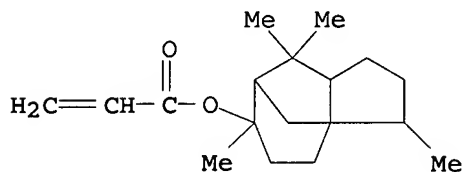
RN 357413-70-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4,4-dimethyl-2-oxo-3-furanyl ester, polymer with octahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-6-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 313698-62-3

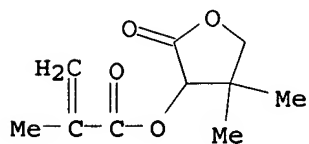
CMF C18 H28 O2



CM 2

CRN 156938-13-5

CMF C10 H14 O4



IC ICM G03F007-039

ICS C08F220-10; C08K005-00; C08L101-02; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST pos photoresist excimer laser sensitivity microphotofabrication;
chem **amplification photoresist** ArF laser
resoln

IT Positive **photoresists**
(chemical amplified pos. **photoresists** for ArF excimer
laser development with high sensitivity and resolution)

IT Surfactants
(fluorosurfactants; chemical amplified pos. **photoresists**
for ArF excimer laser development with high sensitivity and
resolution)

IT Polysiloxanes, uses
(surfactant; chemical amplified pos. **photoresists** for
ArF excimer laser development with high sensitivity and
resolution)

IT 16537-07-8P 177080-68-1P 181224-88-4P
195000-67-0P 195154-83-7P 216308-45-1P 288303-55-9P
297156-40-2P 304441-22-3P 307976-24-5P
324770-96-9P 357413-69-5P 357413-70-8P
357413-71-9P 410540-02-2P 410540-10-2P 410540-12-4P
(chemical amplified pos. **photoresists** for ArF excimer
laser development with high sensitivity and resolution)

IT 110-87-2
(chemical amplified pos. **photoresists** for ArF excimer
laser development with high sensitivity and resolution)

IT 122752-67-4, tert-Butyl cholate
(dissolving inhibitor; chemical amplified pos.
photoresists for ArF excimer laser development with
high sensitivity and resolution)

IT 66003-78-9, Triphenylsulfonium triflate 144089-15-6,
Triphenylsulfonium perfluorooctanesulfonate 144317-44-2,
Triphenylsulfonium perfluorobutanesulfonate 194999-85-4,
Bis(4-tert-butylphenyl)iodonium perfluorobutanesulfonate
(photoacid generator; chemical amplified pos. **photoresists**
for ArF excimer laser development with high sensitivity and
resolution)

IT 484-47-9, 2,4,5-Triphenylimidazole 3001-72-7,
1,5-Diazabicyclo[4.3.0]-5-nonene 6674-22-2, 1,8-
Diazabicyclo[5.4.0]-7-undecene
(**resist** containing; chemical amplified pos.
photoresists for ArF excimer laser development with
high sensitivity and resolution)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
(surfactant; chemical amplified pos. **photoresists** for
ArF excimer laser development with high sensitivity and
resolution)

L31 ANSWER 15 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:347846 HCAPLUS
DOCUMENT NUMBER: 136:361827
TITLE: Positive-working photoresist composition
suitable for ArF excimer laser exposure
INVENTOR(S): Kawabe, Yasumasa
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

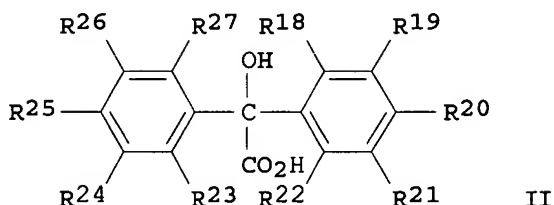
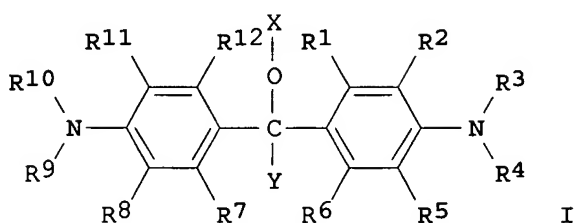
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002131914	A2	20020509	JP 2000-327358	2000 1026

PRIORITY APPLN. INFO.:

JP 2000-327358

2000
1026OTHER SOURCE(S):
GI

MARPAT 136:361827



AB A pos.-working chemical amplification photoresist
composition comprises (A) a cycloaliph. polymer capable of becoming alkaline-soluble upon acid-induced decomposition, (B) a photoacid generator(s) capable of releasing acid upon ≤ 220 nm light irradiation, (C) a compound represented by I (R1-2, R5-8, R11-12 = H, OH, halo, C1-4-alkyl, C1-4-alkoxy; R3-4, R9-10 = C1-4-alkyl; X = H; X joining together with R1 may form ring; Y = H, Ph, substituted phenyl) or II (R18-27 = H, OH, halo, C1-4-alkyl, C1-4-alkoxy; R22 joining together with R23 may form ring), and (D) a fluoro- and/or silicone-surfactant(s), and optionally (E) an acid trapping agent. The photoresist composition may contain a low mol. weight compound having an acid decomposable group and a group capable of becoming alkaline-soluble upon contact with an acid. The photoresist composition shows improved line edge roughness and is suitable for semiconductor device fabrications by ArF excimer lasers.

IT 195000-67-0P

(pos.-working chemical amplification photoresist
composition exhibiting improved line edge roughness suitable for
semiconductor device fabrication by ArF excimer laser exposure)

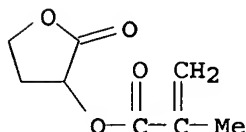
RN 195000-67-0 HCAPLUS**CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl**

ester, polymer with tetrahydro-2-oxo-3-furanyl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 195000-66-9

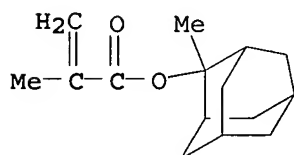
CMF C8 H10 O4



CM 2

CRN 177080-67-0

CMF C15 H22 O2



- IC ICM G03F007-039
ICS C08K005-00; C08K005-04; C08K005-17; C08L101-12; G03F007-004;
H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76
- ST pos working chem **amplification photoresist**
compn semiconductor device fabrication
- IT **Positive photoresists**
Semiconductor device fabrication
(pos.-working chemical **amplification photoresist**
composition exhibiting improved line edge roughness suitable for
semiconductor device fabrication by ArF excimer laser exposure)
- IT Polysiloxanes, uses
(surfactant; pos.-working chemical **amplification**
photoresist composition exhibiting improved line edge
roughness suitable for semiconductor device fabrication by ArF
excimer laser exposure)
- IT 100-97-0, Hexamethylene tetramine, uses 3001-72-7,
1.5-Diazobicyclo[4.3.0]-5-nonene 6674-22-2
(acid trapping agent; pos.-working chemical **amplification**
photoresist composition exhibiting improved line edge
roughness suitable for semiconductor device fabrication by ArF
excimer laser exposure)
- IT 1886-74-4, Bis(phenylsulfonyl) diazomethane 66003-78-9,
Triphenylsulfonium triflate 144317-44-2, Triphenylsulfonium
nonafluorobutanesulfonate
(photoacid generator; pos.-working chemical **amplification**
photoresist composition exhibiting improved line edge

roughness suitable for semiconductor device fabrication by ArF excimer laser exposure)

IT 122752-67-4P, tert-Butyl cholate 195000-67-0P
 249562-07-0P, Maleic anhydride-2-methyl-2-adamantyl methacrylate-2-norbornene copolymer 258879-87-7P,
 2-Methyl-2-adamantyl methacrylate-3-hydroxy-1-adamantyl methacrylate- α -methacryloxy- γ -butyrolactone copolymer
 260448-02-0P, tert-Butyl acrylate-maleic anhydride-norbornene copolymer 301525-10-0P
 (pos.-working chemical **amplification photoresist** composition exhibiting improved line edge roughness suitable for semiconductor device fabrication by ArF excimer laser exposure)

IT 76-93-7, uses 119-58-4 467-69-6 510-13-4 405226-14-4
 (pos.-working chemical **amplification photoresist** composition exhibiting improved line edge roughness suitable for semiconductor device fabrication by ArF excimer laser exposure)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
 (surfactant; pos.-working chemical **amplification photoresist** composition exhibiting improved line edge roughness suitable for semiconductor device fabrication by ArF excimer laser exposure)

L31 ANSWER 16 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:747864 HCAPLUS

DOCUMENT NUMBER: 135:310923

TITLE: Novel fluoropolymer having acid-reactive group and chemical **amplification** type photoresist composition containing the same

INVENTOR(S): Araki, Takayuki; Koh, Meiten; Tanaka, Yoshito; Ishikawa, Takuji; Aoyama, Hirokazu; Shimizu, Tetsuo

PATENT ASSIGNEE(S): Daikin Industries, Ltd., Japan

SOURCE: PCT Int. Appl., 363 pp.

CODEN: PIXXD2

DOCUMENT TYPE: **Patent**

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001074916	A1	20011011	WO 2001-JP2897	2001 0403

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 2001044719	A5	20011015	AU 2001-44719	2001 0403
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photoresists)

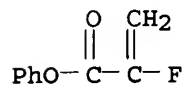
RN 74883-30-0 HCAPLUS

CN 2-Propenoic acid, 2-fluoro-, phenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 46115-40-6

CMF C9 H7 F O2



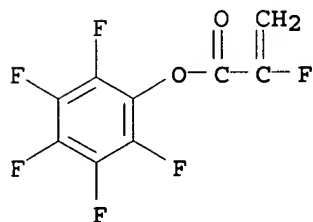
RN 119989-02-5 HCAPLUS

CN 2-Propenoic acid, 2-fluoro-, pentafluorophenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 114589-63-8

CMF C9 H2 F6 O2



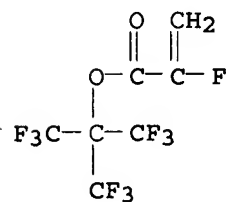
RN 365568-25-8 HCAPLUS

CN 2-Propenoic acid, 2-fluoro-, 1,1-dimethylethyl ester, polymer with 2,2,2-trifluoro-1,1-bis(trifluoromethyl)ethyl 2-fluoro-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 365568-24-7

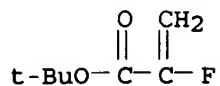
CMF C7 H2 F10 O2



CM 2

CRN 85345-86-4

CMF C7 H11 F O2



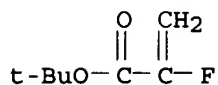
RN 365568-52-1 HCAPLUS

CN 2-Propenoic acid, 2-fluoro-, 1,1-dimethylethyl ester, polymer with
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluoro-1-decene
(9CI) (CA INDEX NAME)

CM 1

CRN 85345-86-4

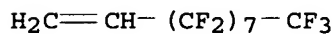
CMF C7 H11 F O2



CM 2

CRN 21652-58-4

CMF C10 H3 F17



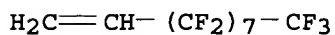
RN 365568-53-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluoro-1-decene
(9CI) (CA INDEX NAME)

CM 1

CRN 21652-58-4

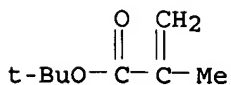
CMF C10 H3 F17



CM 2

CRN 585-07-9

CMF C8 H14 O2



IC ICM C08F020-22
ICS C08F016-24; C08F014-18; C08F030-08; C08F032-00; G03F007-039
CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 35
ST fluoropolymer chem **amplification photoresist**;
acid reactive fluoropolymer photoresist
IT **Photoresists**
(fluoropolymers having acid-reactive groups as chemical
amplification type)
IT Fluoropolymers, preparation
(preparation and use in chemical **amplification type**
photoresists)
IT 28572-02-3P 74883-30-0P 119989-02-5P,
Perfluorophenyl α -fluoroacrylate homopolymer 130139-33-2P
174082-94-1P 262617-13-0P 342005-62-3P 365568-25-8P,
tert-Butyl α -fluoroacrylate-tert-perfluorobutyl acrylate
copolymer 365568-27-0DP, ethoxyethylated 365568-27-0P,
Perfluoro-(1,1,9,9-tetrahydro-2,5-bistrifluoromethyl-3,6-dioxa-8-
nonenol homopolymer 365568-29-2P 365568-31-6P 365568-33-8P
365568-34-9DP, ethoxyethylated 365568-34-9P 365568-36-1P
365568-37-2P 365568-38-3P 365568-40-7P 365568-41-8P
365568-42-9P 365568-44-1P 365568-45-2P, cyclopentene-tert-
butyl α -fluoroacrylate-TFE copolymer 365568-46-3P
365568-47-4P 365568-48-5P 365568-49-6P, Allyl
alcohol-tert-butyl methacrylate-tetrafluoroethylene copolymer
365568-50-9P 365568-51-0P 365568-52-1P
365568-53-2P 365568-54-3P, 3-tert-
Butoxycarbonylcyclopentene-tetrafluoroethylene copolymer
365568-56-5P 365568-57-6P 365568-58-7P, tert-Butyl
 α -fluoroacrylate-2,3-dihydrofuran-tetrafluoroethylene
copolymer 365568-59-8P, tert-Butyl methacrylate-2,3-dihydrofuran-
tetrafluoroethylene copolymer 365568-60-1P 365568-61-2P
365568-62-3P 365568-63-4P 365568-64-5P
(preparation and use in chemical **amplification type**
photoresists)
IT 46115-40-6P 85345-86-4P 105935-24-8P 114589-63-8P
251350-77-3P 342005-61-2P 365568-30-5P 365568-32-7P
365568-39-4P 365568-43-0P
(synthesis and polymerization in preparation of fluoropolymers for
photoresist)
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L31 ANSWER 17 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:643383 HCAPLUS
DOCUMENT NUMBER: 135:203015
TITLE: Novel polymers, chemical **amplification**
resist compositions and patterning
process
INVENTOR(S): Hatakeyama, Jun; Watanabe, Jun; Harada, Yuji
PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 23 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2001018162	A1	20010830	US 2001-783321	2001 0215
US 6835524	B2	20041228	<--	
JP 2001302728	A2	20011031	JP 2001-30542	2001 0207
			<--	
PRIORITY APPLN. INFO.:			JP 2000-37396	A 2000 0216

AB The polymers comprises recurring units of an acrylic derivative of fluorinated backbone [CR1R2CR3(C(:O)OR4)] (R1-3 = H, F, C1-20 alkyl or fluorinated C1-20 alkyl, at least one of R1-3 contains fluorine; and R4 = hydrophilic group). Using the polymers, chemical **amplification** pos. resist compns. featuring low absorption of F2 excimer laser light are obtained.

IT 357294-03-2P 357294-05-4P 357294-07-6P
357294-09-8P 357294-10-1P 357294-13-4P
357294-15-6P

(chemical **amplification** resist compns. containing)

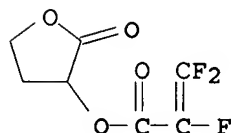
RN 357294-03-2 HCAPLUS

CN 2-Propenoic acid, 2,3,3-trifluoro-, 1-ethylcyclopentyl ester, polymer with tetrahydro-2-oxo-3-furanyl 2,3,3-trifluoro-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 355138-83-9

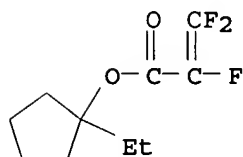
CMF C7 H5 F3 O4



CM 2

CRN 351492-85-8

CMF C10 H13 F3 O2



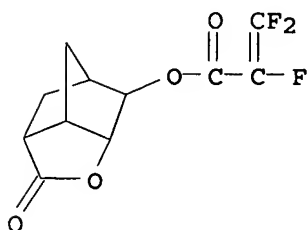
RN 357294-05-4 HCAPLUS

CN 2-Propenoic acid, 2,3,3-trifluoro-, 1-ethylcyclopentyl ester,
polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-
yl 2,3,3-trifluoro-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 357294-04-3

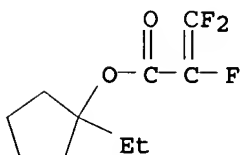
CMF C11 H9 F3 O4



CM 2

CRN 351492-85-8

CMF C10 H13 F3 O2



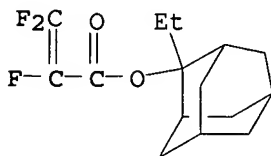
RN 357294-07-6 HCAPLUS

CN 2-Propenoic acid, 2,3,3-trifluoro-, 2-ethyltricyclo[3.3.1.1^{3,7}]dec-
2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl
2,3,3-trifluoro-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 357294-06-5

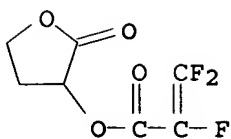
CMF C15 H19 F3 O2



CM 2

CRN 355138-83-9

CMF C7 H5 F3 O4



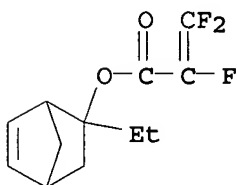
RN 357294-09-8 HCAPLUS

CN 2-Propenoic acid, 2,3,3-trifluoro-, 2-ethylbicyclo[2.2.1]hept-5-en-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2,3,3-trifluoro-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 357294-08-7

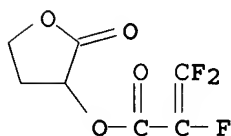
CMF C12 H13 F3 O2



CM 2

CRN 355138-83-9

CMF C7 H5 F3 O4



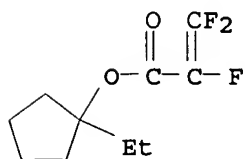
RN 357294-10-1 HCAPLUS

CN 2-Propenoic acid, 2,3,3-trifluoro-, ethyl ester, polymer with 1-ethylcyclopentyl 2,3,3-trifluoro-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 351492-85-8

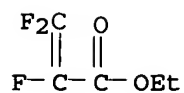
CMF C10 H13 F3 O2



CM 2

CRN 392-68-7

CMF C5 H5 F3 O2



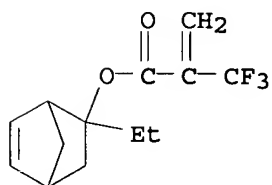
RN 357294-13-4 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-ethylbicyclo[2.2.1]hept-5-en-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 357294-12-3

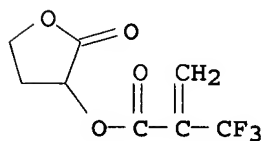
CMF C13 H15 F3 O2



CM 2

CRN 357294-11-2

CMF C8 H7 F3 O4



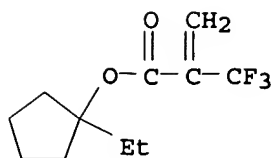
RN 357294-15-6 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, ethyl ester, polymer with 1-ethylcyclopentyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

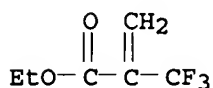
CRN 357294-14-5

CMF C11 H15 F3 O2



CM 2

CRN 87769-68-4
CMF C6 H7 F3 O2



IC ICM G03C001-00
ICS G03F007-00; G03C001-73; C08G061-00; G03F007-40
INCL 430270100
CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38
IT Positive photoresists
(fluorinated acrylic derivative chemical amplification
resist compns. and patterning process)
IT 357294-03-2P 357294-05-4P 357294-07-6P
357294-09-8P 357294-10-1P 357294-13-4P
357294-15-6P
(chemical amplification resist compns. containing)
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L31 ANSWER 18 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:632160 HCAPLUS
DOCUMENT NUMBER: 135:203007
TITLE: Radiation-sensitive resist composition
containing abietic acid derivative
INVENTOR(S): Doki, Katsuji; Kajita, Toru; Shimokawa,
Tsutomu
PATENT ASSIGNEE(S): JSR Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001235863	A2	20010831	JP 2000-44784	2000 0222

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PRIORITY APPLN. INFO.:

JP 2000-44784

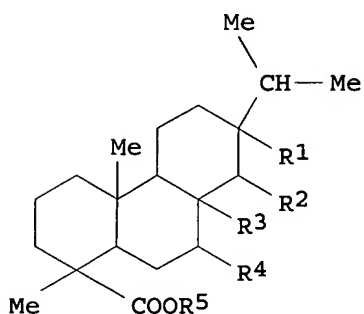
2000

0222

<--

OTHER SOURCE(S):
GI

MARPAT 135:203007



I

AB The composition comprises (A) a resin with an acid decomposable group insol. or slightly soluble in alkali and becoming soluble by the decomposition of the acid-decomposable group, (B) radiation-sensitive acid generator, and (C) an abietic acid derivative I ($R_1-4 = H, OH$, C_1-4 linear or branched alkyl, C_1-4 linear or branched alkoxy; $R_5 = H$, (un)substituted C_1-20 alkyl, $CH_2CO_2R_6$; $R_6 = C_1-18$ alkyl). The composition is useful as chemical **amplification resist**, shows good dry etching resistance, high sensitivity, and gives high resolution patterns with good profile.

IT **355597-33-0P**, tert-Butyl acrylate-1-(3-hydroxyadamantyl) acrylate copolymer
(radiation-sensitive **resist** composition containing resin having acid-decomposable group, acid generator, and abietic acid derivative)

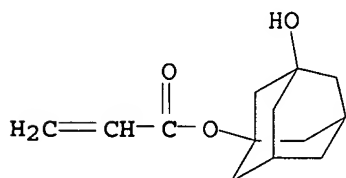
RN 355597-33-0 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with 3-hydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl 2-propenoate (9CI) (CA INDEX NAME)

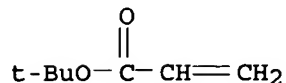
CM 1

CRN 216581-76-9

CMF C13 H18 O3



CM 2

CRN 1663-39-4
CMF C7 H12 O2

- IC ICM G03F007-039
ICS C08F002-46; G03F007-004
- CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
- IT **Resists**
(radiation-sensitive; radiation-sensitive **resist**
composition containing resin having acid-decomposable group, acid
generator, and abietic acid derivative)
- IT 144317-44-2, Triphenylsulfonium nonafluorobutanesulfonate
(acid generator; radiation-sensitive **resist** composition
containing resin having acid-decomposable group, acid generator,
and abietic acid derivative)
- IT 355597-16-9P 355597-26-1P **355597-33-0P**, tert-Butyl
acrylate-1-(3-hydroxyadamantyl) acrylate copolymer
(radiation-sensitive **resist** composition containing resin
having acid-decomposable group, acid generator, and abietic
acid derivative)
- IT 194999-85-4, Bis(4-tert-butylphenyl)iodonium
nonafluorobutanesulfonate 253180-12-0 357186-99-3
(radiation-sensitive **resist** composition containing resin
having acid-decomposable group, acid generator, and abietic
acid derivative)

L31 ANSWER 19 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:632159 HCAPLUS
DOCUMENT NUMBER: 135:203006
TITLE: Radiation-sensitive resin composition
containing alicyclic compound
INVENTOR(S): Doki, Katsuji; Kajita, Toru; Shimokawa,
Tsutomu
PATENT ASSIGNEE(S): JSR Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001235862	A2	20010831	JP 2000-44179	2000 0222

PRIORITY APPLN. INFO.:

<--
JP 2000-44179

2000
0222

<--

OTHER SOURCE(S): MARPAT 135:203006

AB The composition comprises (A) a resin with an acid decomposable group insol. or slightly soluble in alkali and becoming soluble by the decomposition of the acid-decomposable group, (B) radiation-sensitive acid generator, and (C) $Z(OCOC_2H_4CO_2CH_2CO_2CMe_3)_n$ ($Z = n$ -valent hydrocarbon with alicyclic group having total C no 4-20 ; $n = 1-4$). The composition is useful as chemical **amplification resist** and gives high resolution clear patterns.

IT 355597-33-0P

(radiation-sensitive **resist** composition containing resin having acid-decomposable group, acid generator, and alicyclic compound)

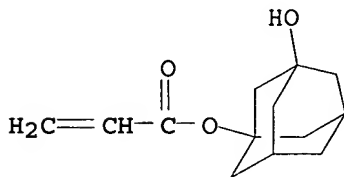
RN 355597-33-0 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with 3-hydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 216581-76-9

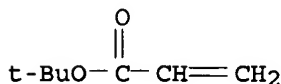
CMF C13 H18 O3



CM 2

CRN 1663-39-4

CMF C7 H12 O2



IC ICM G03F007-039

ICS C08F220-06; C08F220-10; C08F222-06; C08F232-08; C08K005-103; C08L033-02; C08L033-04; C08L035-00; C08L045-00; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes) Section cross-reference(s): 38

IT **Resists**

(radiation-sensitive; radiation-sensitive **resist** composition containing resin having acid-decomposable group, acid generator, and alicyclic compound)

IT 144317-44-2, Triphenylsulfonium nonafluorobutanesulfonate (acid generator; radiation-sensitive **resist** composition containing resin having acid-decomposable group, acid generator, and alicyclic compound)

IT 355597-16-9P 355597-26-1P 355597-33-0P
(radiation-sensitive **resist** composition containing resin
having acid-decomposable group, acid generator, and alicyclic
compound)

IT 194999-85-4, Bis(4-tert-butylphenyl)iodonium
nonafluorobutanesulfonate 231296-42-7 357186-92-6
(radiation-sensitive **resist** composition containing resin
having acid-decomposable group, acid generator, and alicyclic
compound)

L31 ANSWER 20 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:621450 HCAPLUS
DOCUMENT NUMBER: 135:350410
TITLE: Novel fluoropolymers for use in 157 nm
lithography
AUTHOR(S): Ito, H.; Wallraff, G. M.; Fender, N.; Brock,
P. J.; Larson, C. E.; Truong, H. D.; Breyta,
G.; Miller, D. C.; Sherwood, M. H.; Allen, R.
D.
CORPORATE SOURCE: IBM Almaden Research Center, San Jose, CA,
95120, USA
SOURCE: Journal of Photopolymer Science and Technology
(2001), 14(4), 583-594
CODEN: JSTEEW; ISSN: 0914-9244
PUBLISHER: Technical Association of Photopolymers, Japan
DOCUMENT TYPE: Journal
LANGUAGE: English

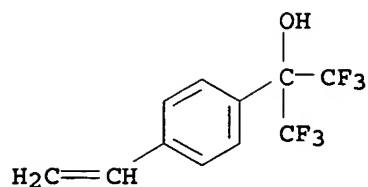
AB Unexpectedly good UV transmittance at 157 nm of poly(norbornene
sulfone) bearing a pendant hexafluoroisopropanol functionality has
prompted the authors to employ this fluoroalc. as an acid group
for the design of chemical **amplification resists**
for use in 157 nm lithog. The backbone structures to which the
hexafluoroalc. group is attached are polynorbornene and
polystyrene. Furthermore, the authors discovery that poly(Me
 α -trifluoromethylacrylate) is adequately transparent at 157
nm has led the authors to incorporate the α -
trifluoromethylacrylic unit in the polymer backbone by radical
copolymer. with styrenes and norbornenes. Thus, four platforms are
currently available to the authors in preparation of 157 nm resist
polymers; (1) all-acrylic, (2) all-norbornene, (3)
acrylic-norbornene, and (4) acrylic-styrenic systems.

IT 370866-15-2P, p-(Hexafluoro-2-hydroxypropyl)styrene-tert-
butyl methacrylate copolymer
(fluoropolymers based on α -trifluoromethylacrylate
copolymers for vacuum UV **photoresist** applications)

RN 370866-15-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with
4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol
(9CI) (CA INDEX NAME)

CM 1

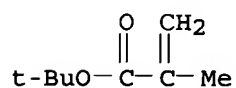
CRN 2386-82-5
CMF C11 H8 F6 O



CM 2

CRN 585-07-9

CMF C8 H14 O2



IT 370866-19-6P 370866-20-9P 370866-24-3P

370866-36-7P 370866-39-0P 370866-41-4P

370866-44-7P

(synthesis and properties and lithog. evaluation of
fluoropolymers based on α -trifluoromethylacrylate
copolymers for vacuum UV **photoresist** applications)

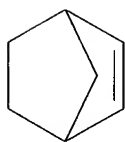
RN 370866-19-6 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, polymer with
bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

CM 1

CRN 498-66-8

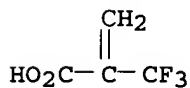
CMF C7 H10



CM 2

CRN 381-98-6

CMF C4 H3 F3 O2



RN 370866-20-9 HCAPLUS

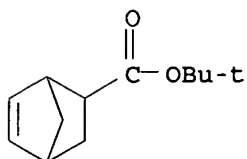
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl
ester, polymer with 2-(trifluoromethyl)-2-propenoic acid (9CI)

(CA INDEX NAME)

CM 1

CRN 154970-45-3

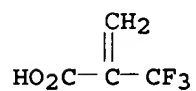
CMF C12 H18 O2



CM 2

CRN 381-98-6

CMF C4 H3 F3 O2



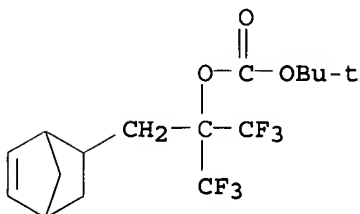
RN 370866-24-3 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, methyl ester, polymer with
 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-
 (trifluoromethyl)ethyl 1,1-dimethylethyl carbonate (9CI) (CA
 INDEX NAME)

CM 1

CRN 196314-63-3

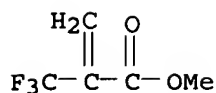
CMF C16 H20 F6 O3



CM 2

CRN 382-90-1

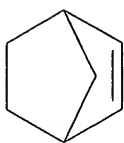
CMF C5 H5 F3 O2



RN 370866-36-7 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, methyl ester, polymer with
 bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

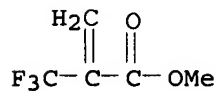
CM 1

CRN 498-66-8
 CMF C7 H10



CM 2

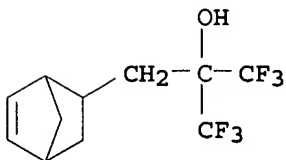
CRN 382-90-1
 CMF C5 H5 F3 O2



RN 370866-39-0 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
 polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hep
 t-5-ene-2-ethanol (9CI) (CA INDEX NAME)

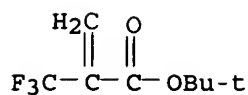
CM 1

CRN 196314-61-1
 CMF C11 H12 F6 O



CM 2

CRN 105935-24-8
 CMF C8 H11 F3 O2



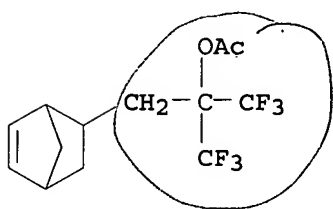
RN 370866-41-4 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 370866-40-3

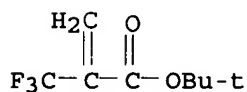
CMF C13 H14 F6 O2



CM 2

CRN 105935-24-8

CMF C8 H11 F3 O2



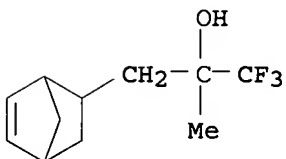
RN 370866-44-7 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, methyl ester, polymer with α -methyl- α -(trifluoromethyl)bicyclo[2.2.1]hept-2-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 370866-43-6

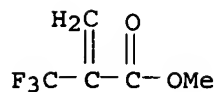
CMF C11 H15 F3 O



CM 2

CRN 382-90-1

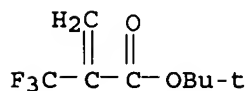
CMF C5 H5 F3 O2



IT 370866-13-0P, p-(Hexafluoro-2-hydroxypropyl)styrene-tert-butyl α -trifluoromethylacrylate copolymer
 (synthesis and properties and lithog. evaluation of fluoropolymers for photoresist application for 157 nm exposure lithog.)
 RN 370866-13-0 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

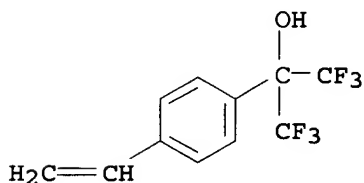
CM 1

CRN 105935-24-8
 CMF C8 H11 F3 O2



CM 2

CRN 2386-82-5
 CMF C11 H8 F6 O



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 36
 IT **Photoresists**
 (chemical amplified; synthesis and properties and lithog. evaluation of fluoropolymers based on α -trifluoromethylacrylate copolymers for vacuum UV photoresist applications)
 IT Dissolution rate
 (lithog. evaluation of fluoropolymers based on α -trifluoromethylacrylate copolymers for vacuum UV photoresist applications)
 IT Polymerization
 Polymerization kinetics
 (radical; synthesis and properties and lithog. evaluation of

fluoropolymers based on α -trifluoromethylacrylate copolymers for vacuum UV **photoresist** applications)

IT Fluoropolymers, properties
(synthesis and properties and lithog. evaluation of fluoropolymers based on α -trifluoromethylacrylate copolymers for vacuum UV **photoresist** applications)

IT 75-59-2, Tetramethylammonium hydroxide
(developer; lithog. evaluation of fluoropolymers based on α -trifluoromethylacrylate copolymers for vacuum UV **photoresist** applications)

IT 370866-15-2P, p-(Hexafluoro-2-hydroxypropyl)styrene-tert-butyl methacrylate copolymer
(fluoropolymers based on α -trifluoromethylacrylate copolymers for vacuum UV **photoresist** applications)

IT 213740-80-8, Di-(4-tert-butylphenyl)iodonium perfluorooctanesulfonate
(photoacid generator; lithog. evaluation of fluoropolymers based on α -trifluoromethylacrylate copolymers for vacuum UV **photoresist** applications)

IT 78-67-1, AIBN
(synthesis and properties and lithog. evaluation of fluoropolymers based on α -trifluoromethylacrylate copolymers for vacuum UV **photoresist** applications)

IT 370866-17-4P 370866-19-6P 370866-20-9P
370866-22-1P 370866-24-3P 370866-28-7P 370866-33-4P
370866-36-7P 370866-39-0P 370866-41-4P
370866-44-7P 370866-47-0P 370866-48-1P
(synthesis and properties and lithog. evaluation of fluoropolymers based on α -trifluoromethylacrylate copolymers for vacuum UV **photoresist** applications)

IT 2386-82-5, p-(Hexafluoro-2-hydroxypropyl)styrene 105935-24-8, tert-Butyl α -trifluoromethylacrylate
(synthesis and properties and lithog. evaluation of fluoropolymers for **photoresist** application for 157 nm exposure lithog.)

IT 370866-13-0P, p-(Hexafluoro-2-hydroxypropyl)styrene-tert-butyl α -trifluoromethylacrylate copolymer
(synthesis and properties and lithog. evaluation of fluoropolymers for **photoresist** application for 157 nm exposure lithog.)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 21 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:72419 HCAPLUS

DOCUMENT NUMBER: 134:139218

TITLE: Chemically amplified resist composition and resist pattern formation using same

INVENTOR(S): Fujiwara, Tadayuki; Wakisaka, Yukiya

PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----

JP 2001027804

A2

20010130

JP 1999-199095

1999

0713

<--

PRIORITY APPLN. INFO.:

JP 1999-199095

1999

0713

<--

AB The title resist composition contains a resin which becomes soluble in aqueous alkali solns., a photoacid generator, and a blocked polyisocyanate compound in which the isocyanate groups of the diisocyanates or their isocyanurate forms are blocked with blocking agents. The resist is irradiated with actinic ray such as UV, deep UV, electron beam, etc. and/or heat-treated using far IR rays or heat source to form resist patterns. The composition useful in deep UV excimer and electron beam lithog. shows improved dry etch resistance.

IT 195000-69-2P, β -Methacryloyloxy- γ -butyrolactone-2-methacryloyloxy-2-methyladamantane copolymer
(chemical amplified resist composition containing alkali-soluble resin, photoacid generator, and blocked polyisocyanate)

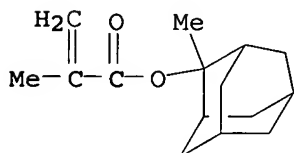
RN 195000-69-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-5-oxo-3-furanyl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

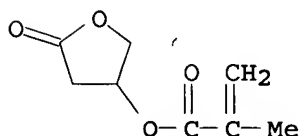
CMF C15 H22 O2



CM 2

CRN 130224-95-2

CMF C8 H10 O4



IC ICM G03F007-039

ICS C08G018-80; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST chem **amplification resist** blocked
polyisocyanate; alkali soluble resin resist; photoacid generator
resist

IT **Resists**
(radiation-sensitive; chemical amplified **resist** composition
containing alkali-soluble resin, photoacid generator, and blocked
polyisocyanate)

IT 96-29-7D, Methyl ethyl ketoxime, reaction products with
hexamethylene diisocyanate 822-06-0D, 1,6-Hexamethylene
diisocyanate, reaction products with Me Et ketoxime 109190-12-7,
Coronate 2507 128769-58-4, Coronate 2515
(chemical amplified **resist** composition containing alkali-soluble
resin, photoacid generator, and blocked polyisocyanate)

IT 123589-22-0P, p-tert-Butoxystyrene-p-hydroxystyrene copolymer
195000-69-2P, β -Methacryloyloxy- γ -butyrolactone-
2-methacryloyloxy-2-methyladamantane copolymer
(chemical amplified **resist** composition containing alkali-soluble
resin, photoacid generator, and blocked polyisocyanate)

IT 66003-78-9, Triphenylsulfonium triflate
(chemical amplified **resist** composition containing alkali-soluble
resin, photoacid generator, and blocked polyisocyanate)

L31 ANSWER 22 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:68263 HCAPLUS
DOCUMENT NUMBER: 134:139214
TITLE: Chemically amplified resist composition and
resist pattern formation using same
INVENTOR(S): Fujiwara, Tadayuki; Wakisaka, Yukiya
PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2001027805	A2	20010130	JP 1999-199096	1999 0713

PRIORITY APPLN. INFO.: <--
JP 1999-199096
1999
0713

AB The title resist composition contains a resin which becomes soluble in aqueous
alkali solns., a photoacid generator, and polyfunctional
(meth)acrylates. The resist is irradiated with actinic ray such
as UV, deep UV, electron beam, etc. and/or heat-treated using far
IR rays or heat source to form resist patterns. The composition useful
in deep UV excimer and electron beam lithog. shows improved dry
etch resistance.

IT **195000-69-2P**, β -Methacryloyloxy- γ -butyrolactone-
2-methacryloyloxy-2-methyladamantane copolymer
(chemical amplified **resist** composition containing polyfunctional
acrylate)

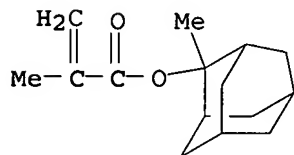
RN 195000-69-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl

ester, polymer with tetrahydro-5-oxo-3-furanyl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

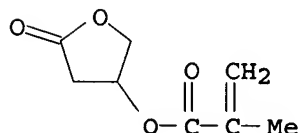
CMF C15 H22 O2



CM 2

CRN 130224-95-2

CMF C8 H10 O4



IC ICM G03F007-039

ICS G03F007-027

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST chem **amplification resist** polyfunctional
acrylate

IT **Resists**

(chemical amplified **resist** composition containing polyfunctional
acrylate)

IT 3290-92-4, Trimethylolpropane trimethacrylate 82200-31-5,
Dipentaerythritol pentamethacrylate

(chemical amplified **resist** composition containing polyfunctional
acrylate)

IT 123589-22-0P, p-tert-Butoxystyrene-p-hydroxystyrene copolymer
195000-69-2P, β -Methacryloyloxy- γ -butyrolactone-
2-methacryloyloxy-2-methyladamantane copolymer

(chemical amplified **resist** composition containing polyfunctional
acrylate)

IT 66003-78-9, Triphenylsulfonium triflate

(chemical amplified **resist** composition containing polyfunctional
acrylate)

L31 ANSWER 23 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:67474 HCAPLUS

DOCUMENT NUMBER: 134:139212

TITLE: Chemically amplified resist composition and
resist pattern formation using same

INVENTOR(S): Fujiwara, Tadayuki; Wakisaka, Yukiya

PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001027806	A2	20010130	JP 1999-199097	1999 0713

PRIORITY APPLN. INFO.: <--
 JP 1999-199097
 1999
 0713

AB The title resist composition contains a resin which becomes soluble in aqueous alkali solns., a photoacid generator, and a polyfunctional epoxy compound and/or a polyfunctional vinyl ether compound. The resist is irradiated with actinic ray such as UV, deep UV, electron beam, etc. and/or heat-treated using far IR rays or heat source to form resist patterns. The composition useful in deep UV excimer and electron beam lithog. shows improved dry etch resistance.

IT 195000-69-2P, β -Methacryloyloxy- γ -butyrolactone-2-methacryloyloxy-2-methyladamantane copolymer
 (chemical amplified resist composition containing epoxy compound and/or vinyl ether compound)

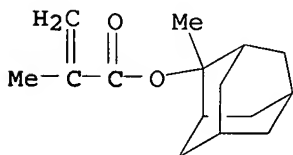
RN 195000-69-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-5-oxo-3-furanyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

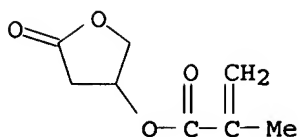
CMF C15 H22 O2



CM 2

CRN 130224-95-2

CMF C8 H10 O4



IC ICM G03F007-039
ICS G03F007-032; G03F007-40; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST chem **amplification resist** vinyl ether; epoxy
compd chem **amplification resist**
IT **Resists**
(chemical amplified **resist** composition containing epoxy compound
and/or vinyl ether compound)
IT 2386-87-0, 3,4-Epoxy cyclohexylmethyl-3,4-epoxycyclohexane
carboxylate 130668-21-2, Cyclohexanedimethanol divinyl ether
(chemical amplified **resist** composition containing epoxy compound
and/or vinyl ether compound)
IT 123589-22-0P, p-tert-Butoxystyrene-p-hydroxystyrene copolymer
195000-69-2P, β -Methacryloyloxy- γ -butyrolactone-
2-methacryloyloxy-2-methyladamantane copolymer
(chemical amplified **resist** composition containing epoxy compound
and/or vinyl ether compound)
IT 66003-78-9, Triphenylsulfonium triflate
(chemical amplified **resist** composition containing epoxy compound
and/or vinyl ether compound)

L31 ANSWER 24 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:50933 HCAPLUS
DOCUMENT NUMBER: 134:108010
TITLE: Chemically amplified resist composition
INVENTOR(S): Fujiwara, Tadayuki; Wakisaka, Yukiya; Tooyama,
Masayuki
PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001004706	A1	20010118	WO 2000-JP4623	2000 0711

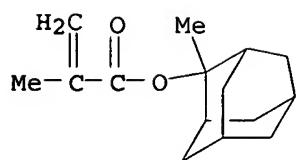
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RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1209525	A1	20020529	EP 2000-942481	2000 0711

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,

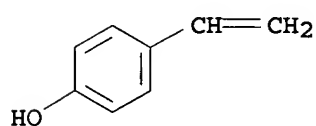
MC, PT, IE, FI, CY
 TW 527525 B 20030411 TW 2000-89113754 2000
 0711
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 US 6887646 B1 20050503 US 2001-30430 2000
 0711
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 PRIORITY APPLN. INFO.: JP 1999-198160 A 1999
 0712
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 JP 1999-199098 A 1999
 0713
 <--
 JP 1999-199099 A 1999
 0713
 <--
 JP 1999-230059 A 1999
 0816
 <--
 WO 2000-JP4623 W 2000
 0711
 <--
 AB A chemical amplified resist composition comprises a resin which can be
 converted to a resin soluble in an aqueous alkaline solution by an acid, an
 acid
 generating agent which is activated by irradiation, and an amine
 derivative which shows such a basicity as to form a conjugate acid in
 water at 25 °C and has a medium polarity. The amine derivative
 acts as a quencher. The presence of the amine derivative allows the
 resist composition to form a finer resist pattern, and thus the resist
 composition can be suitably used particularly in a lithog. using ArF
 excimer laser radiation.
 IT 186585-53-5P, p-Hydroxystyrene-2-Methyl-2-adamantyl
 methacrylate copolymer 195000-69-2P,
 2-Methyl-2-adamantyl methacrylate-β-Methacryloyloxy-γ-
 butyrolactone copolymer
 (resin in chemical amplification resist
 composition)
 RN 186585-53-5 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 ester, polymer with 4-ethenylphenol (9CI) (CA INDEX NAME)
 CM 1
 CRN 177080-67-0
 CMF C15 H22 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



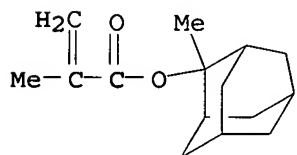
RN 195000-69-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3]dec-2-yl
 ester, polymer with tetrahydro-5-oxo-3-furanyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

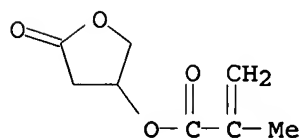
CMF C15 H22 O2



CM 2

CRN 130224-95-2

CMF C8 H10 O4



IC ICM G03F007-039

ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and
 Photographic and Other Reprographic Processes)

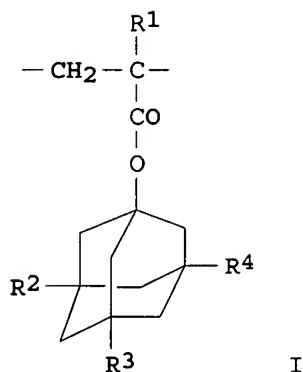
ST amplification resist compn

L31 ANSWER 25 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:877011 HCAPLUS
DOCUMENT NUMBER: 134:63888
TITLE: Positive-working chemical
amplification photoresist
composition for far-ultraviolet ray exposure
INVENTOR(S): Sato, Kenichiro; Kodama, Kunihiro; Aogo,
Toshiaki
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 8
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000347408	A2	20001215	JP 1999-158693	1999 0604
US 6479211	B1	20021112	US 2000-577884	2000 0525
PRIORITY APPLN. INFO.:			JP 1999-146774	A 1999 0526
			JP 1999-146775	A 1999 0526
			JP 1999-150215	A 1999 0528

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 JP 1999-152860 A 1999
 0531
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 JP 1999-152861 A 1999
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 JP 1999-152862 A 1999
 0531
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 JP 1999-158693 A 1999
 0604
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 JP 1999-158695 A 1999
 0604
 <--

GI



AB A pos.-working photoresist containing (A) a compound generating an acid upon irradiation with active ray or radioactive ray, (B) a resin having a repeating unit (I; R1 = H, halo, C1-4 linear or branched alkyl; R2 - R4 = H or OH, provided that at least one of R2 - R4 is OH) and decomposing upon reaction with an acid to increase the solubility in an alkali developer, and (C) a compound generating sulfonic acid is described. This photoresist decreases the development of defects or the formation of scums when using an exposure source of 150 nm wavelength, in particular ≤ 220 nm, and improves microlithog. (photolithog.) process of LSI and microchips using far-UV ray such as excimer laser beam.

IT 312616-54-9P 312616-55-0P 312616-59-4P
 312728-97-5P

(pos.-working chemical amplification photoresist
 composition for far-UV ray exposure)

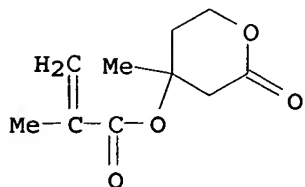
RN 312616-54-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl
 ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-66-9

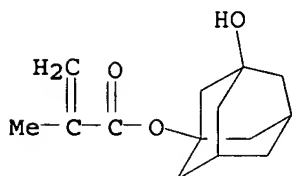
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CM 2

CRN 115372-36-6

CMF C14 H20 O3



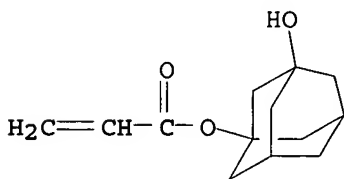
RN 312616-55-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 3-hydroxytricyclo[3.3.1.1.3,7]dec-1-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 216581-76-9

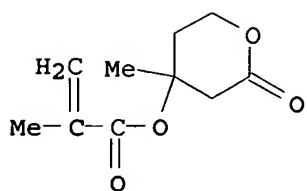
CMF C13 H18 O3



CM 2

CRN 177080-66-9

CMF C10 H14 O4



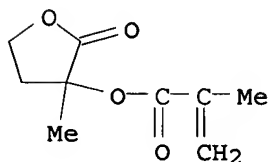
RN 312616-59-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with tetrahydro-3-methyl-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 211802-06-1

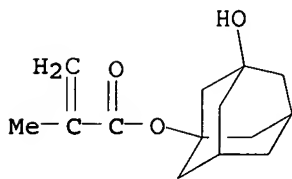
CMF C9 H12 O4



CM 2

CRN 115372-36-6

CMF C14 H20 O3



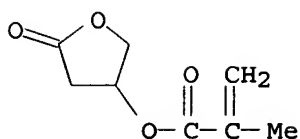
RN 312728-97-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 130224-95-2

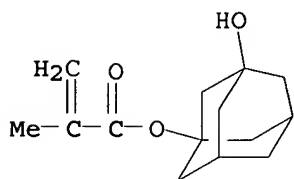
CMF C8 H10 O4



CM 2

CRN 115372-36-6

CMF C14 H20 O3



- IC ICM G03F007-039
ICS C08L033-04; G03F007-004; G03F007-027; G03F007-20; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38, 76
- IT **Positive photoresists**
(pos.-working chemical **amplification photoresist**
composition for far-UV ray exposure)
- IT Acrylic polymers, preparation
(pos.-working chemical **amplification photoresist**
composition for far-UV ray exposure)
- IT 288303-62-8P 288303-65-1P 288303-68-4P
(acid-generating compound; pos.-working chemical
amplification photoresist composition for far-UV
ray exposure)
- IT 93-11-8, 2-Naphthalenesulfonyl chloride 126-81-8, Dimedone
771-98-2, 1-Phenyl-1-cyclohexene 832-53-1,
Pentafluorobenzenesulfonyl chloride 1694-31-1, tert-Butyl
acetoacetate 2033-24-1, Meldrum's acid 21286-54-4,
10-Camphorsulfonyl chloride
(pos.-working chemical **amplification photoresist**
composition for far-UV ray exposure)
- IT 39149-65-0P 72875-02-6P
(pos.-working chemical **amplification photoresist**
composition for far-UV ray exposure)
- IT 258879-89-9P 288303-73-1P 288303-75-3P 288303-77-5P
303154-53-2P 312616-33-4P 312616-36-7P 312616-39-0P
312616-42-5P 312616-45-8P 312616-47-0P 312616-48-1P
312616-49-2P 312616-51-6P 312616-52-7P **312616-54-9P**
312616-55-0P 312616-59-4P 312620-39-6P
312620-42-1P 312620-52-3P 312620-54-5P 312620-56-7P
312620-58-9P 312728-96-4P **312728-97-5P** 312728-99-7P
312729-01-4P 313708-80-4P 313708-81-5P
(pos.-working chemical **amplification photoresist**
composition for far-UV ray exposure)
- IT 100-97-0, Hexamethylenetetramine, uses 280-57-9,

1,4-Diazabicyclo[2.2.2]octane 1122-58-3, 4-Dimethylaminopyridine
 2305-59-1 3001-72-7, 1,5-Diazabicyclo[4.3.0]-5-nonene
 6674-22-2, 1,8-Diazabicyclo[5.4.0]-7-undecene
 (pos.-working chemical **amplification photoresist**
 composition for far-UV ray exposure)

L31 ANSWER 26 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:317214 HCAPLUS
 DOCUMENT NUMBER: 132:341195
 TITLE: Chemically amplified photoresist composition
 INVENTOR(S): Choi, Sang Joon
 PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: **Patent**
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000137328	A2	20000516	JP 1999-307678	1999 1028
JP 3501988	B2	20040302		
KR 2000027737	A	20000515	KR 1998-45736	1998 1029
TW 422940	B	20010221	TW 1999-88100758	1999 0119
US 6114422	A	20000905	US 1999-313808	1999 0518
PRIORITY APPLN. INFO.:			KR 1998-45736	A 1998 1029

AB The title resist composition comprises a photosensitive polymer of the formula $[\text{CH}_2\text{CH}(\text{C}_6\text{H}_4\text{OH-p})]_k[\text{CH}_2\text{CR}_1(\text{CO}_2(\text{CH}_2)_x\text{CH}(\text{CO}_2\text{R}_2)_2)]_l$ [I; R₁ = H, Me; R₂ = tert-Bu, tetrahydropyranyl, 1-alkoxyethyl; x = 1-4; k/(k + l) = 0.5-0.9] and a photoacid generator 1-15 weight% of the polymer. The resist composition comprises a polymer blend of I and $[\text{CH}_2\text{CH}(\text{C}_6\text{H}_4\text{OH-p})]_m[\text{CH}_2\text{CH}(\text{C}_6\text{H}_4\text{OR}_3\text{-p})]_n$ [R₃ = tert-BU, tetrahydropyranyl, 1-alkoxyethyl, tert-butoxycarbonyl; m/(m + n) = 0.5-0.9] and a photoacid generator 1-15 weight% of the polymer blend. The composition provides a high contrast pattern showing good thermal characteristics.

IT 268550-94-3DP, 4-Acetoxytyrene-di-tert-butylmalonylpropyl acrylate copolymer, hydrolyzed
 (photoresist composition containing acrylic acid ester-hydroxystyrene copolymer and acid generator)

RN 268550-94-3 HCAPLUS

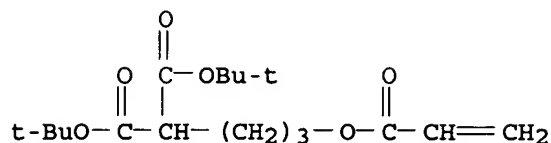
CN Propanedioic acid, [3-[(1-oxo-2-propenyl)oxy]propyl]-, bis(1,1-dimethylethyl) ester, polymer with 4-ethenylphenyl acetate

(9CI) (CA INDEX NAME)

CM 1

CRN 268550-93-2

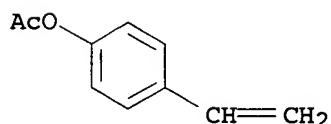
CMF C17 H28 O6



CM 2

CRN 2628-16-2

CMF C10 H10 O2



IC ICM G03F007-039

ICS C08F008-12; C08F212-14; C08L025-18; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and

Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST chem **amplification photoresist** hydroxystyrene

acrylate copolymer; photoacid generator photoresist; polymer blend

polyhydroxystyrene deriv photoresist

IT **Photoresists**(chemical **amplification-type photoresist**

containing acrylate-hydroxystyrene copolymer and photoacid generator)

IT Polymer blends

(chemical **amplification-type photoresist**

containing polymer blend of acrylate-hydroxystyrene copolymer and hydroxystyrene derivative polymer)

IT 102-71-6, uses 111-42-2, Diethanolamine, uses 121-44-8, uses 1116-40-1, Triisobutylamine

(photoresist composition containing acrylic acid ester-hydroxystyrene copolymer and acid generator)

IT 109-92-2DP, Ethyl vinyl ether, ethers with polyhydroxystyrene

110-87-2DP, ethers with polyhydroxystyrene 59269-51-1DP,

Poly(hydroxystyrene), ethers 155214-68-9P, Poly(hydroxystyrene)

tert-butylcarbonate 268550-94-3DP, 4-Acetoxystyrene-di-

tert-butylmalonylpropyl acrylate copolymer, hydrolyzed

(photoresist composition containing acrylic acid ester-hydroxystyrene copolymer and acid generator)

IT 34684-40-7, N-Hydroxysuccinimide triflate 66003-78-9, Triphenylsulfonium triflate

(photoresist composition containing acrylic acid ester-hydroxystyrene copolymer and acid generator)

L31 ANSWER 27 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2000:316980 HCAPLUS
 DOCUMENT NUMBER: 132:341190
 TITLE: Photosensitive polymer for chemically
 amplified resists and chemically amplified
 resist composition containing same
 INVENTOR(S): Choi, Sang Joon
 PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000136219	A2	20000516	JP 1999-307677	1999 1028
JP 3724994	B2	20051207	<--	
KR 2000027738	A	20000515	KR 1998-45737	1998 1029
TW 440746	B	20010616	TW 1999-88100759	1999 0119
US 6294630	B1	20010925	US 1999-372016	1999 0811
US 2002026022	A1	20020228	US 2001-915670	2001 0726
US 6515038	B2	20030204	<--	
PRIORITY APPLN. INFO.:			KR 1998-45737	A 1998 1029
			US 1999-372016	A3 1999 0811

AB The title polymer has the general formula

$$[CH_2CR_1(CO_2(CH_2)_xCH(CO_2R_2)_2)]_l[CH_2CR_3(CO_2R_4)]_m[CH_2CR_5(C_6H_4OH-p)]_n$$

 [R1, R3, R5 = H, Me; R2 = tert-Bu, tetrahydropyranyl,
 1-alkoxyethyl; R4 = H, Me, tert-Bu, tetrahydropyranyl,
 1-alkoxyethyl; x = 1-4; $l/(l+m+n) = 0.1-0.5$; $m/(l+m+n) = 0.01-0.5$; $(l+m)/(l+m+n) = 0.1-0.7$]. The resist composition
 contains the polymer and a photoacid generator 1-15 weight% of the
 polymer. The polymer shows increased solubility difference prior to
 and after exposure, and hence the resist composition provides high
 contrast patterns.

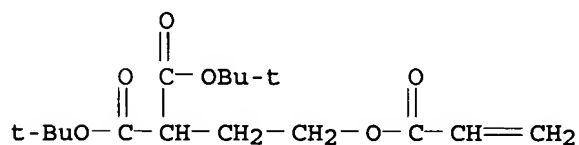
IT 267899-95-6DP, hydrolyzed

(photoresist composition containing acrylic acid
ester-hydroxystyrene copolymer and acid generator)

RN 267899-95-6 HCAPLUS
CN Propanedioic acid, [2-[(1-oxo-2-propenyl)oxy]ethyl]-,
bis(1,1-dimethylethyl) ester, polymer with 4-ethenylphenyl acetate
(9CI) (CA INDEX NAME)

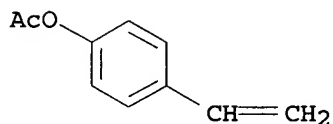
CM 1

CRN 267899-92-3
CMF C16 H26 O6



CM 2

CRN 2628-16-2
CMF C10 H10 O2



IC ICM C08F220-28
ICS C08F008-12; C08L033-00; G03F007-004; G03F007-039; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST chem amplification photoresist; malonylalkyl
acrylate copolymer photoresist; hydroxystyrene acrylate copolymer
photoresist; acid generator photoresist
IT Photoresists
(photoresist composition containing acrylic acid
ester-hydroxystyrene copolymer and acid generator)
IT 267899-93-4DP, hydrolyzed 267899-94-5DP, hydrolyzed
267899-95-6DP, hydrolyzed
(photoresist composition containing acrylic acid
ester-hydroxystyrene copolymer and acid generator)
IT 66003-78-9, Triphenylsulfonium triflate
(photoresist composition containing acrylic acid
ester-hydroxystyrene copolymer and acid generator)

L31 ANSWER 28 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:139195 HCAPLUS
DOCUMENT NUMBER: 132:187644
TITLE: Polymer, chemically amplified negative-working
resist containing same, and resist pattern
formation
INVENTOR(S): Iwasa, Shigeyuki; Maeda, Katsumi; Nakano,

PATENT ASSIGNEE(S): Kaichiro; Hasegawa, Etsuo
 SOURCE: NEC Corp., Japan
 Jpn. Kokai Tokkyo Koho, 35 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000063433	A2	20000229	JP 1998-229154	1998 0813
JP 3003680	B2	20000131	JP 1998-229154	1998 0813

AB The title polymer has the general formula
 $[CH_2CR_1(CO_2R_2CO_2H)]_x[CH_2CR_5(CONHCH_2OR_6)]_z$ (I),
 $[CH_2CR_3(CO_2R_4OH)]_y[CH_2CR_5(CONHCH_2OR_6)]_z$ (II) or
 $[CH_2CR_1(CO_2R_2CO_2H)]_x[CH_2CR_3(CO_2R_4OH)]_y[CH_2CR_5(CONHCH_2OR_6)]_z$ (III)
 (R1, R3, R5 = H or Me; R2, R4 = C7-18 alkylene having a
 cross-linked cyclic hydrocarbon group; R6 = H or C1-12 alkyl; $x + z = 1$, $0 < x < 1$, and $0 < z < 1$ in I; $y + z = 1$, $0 < y < 1$, and $0 < z < 1$ in II; $x + y + z = 1$, $0 < x < 1$, $0 < y < 1$, and $0 < z < 1$ in III) and a weight average mol. weight of 1000-500,000. The title resist comprises the polymer and a photoacid generator and is coated on a substrate, patternwise exposed to light of wavelength 180-220 nm, heat-treated, and developed to form a resist pattern. The polymer shows high transparency toward short wavelength light of ≤ 220 nm such as ArF excimer laser beams and improved dry etch resistance.

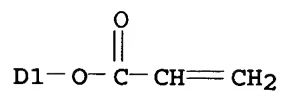
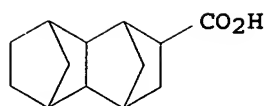
IT 259528-66-0P 259528-67-1P
 (chemical amplification-type photoresist
 containing acrylic polymer and photoacid generator)
 RN 259528-66-0 HCAPLUS
 CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or
 7)-[(1-oxo-2-propenyl)oxy]-, polymer with N-(methoxymethyl)-2-
 propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 195398-52-8

CMF C16 H20 O4

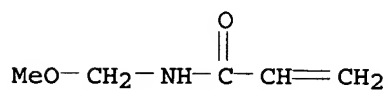
CCI IDS



CM 2

CRN 3644-11-9

CMF C5 H9 N O2



RN 259528-67-1 HCAPLUS

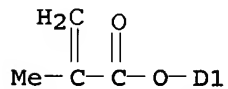
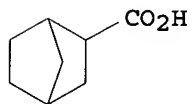
CM Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with N-(methoxymethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 210641-03-5

CMF C12 H16 O4

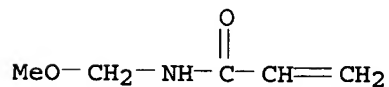
CCI IDS



CM 2

CRN 3644-11-9

CMF C5 H9 N O2



IC ICM C08F020-18
ICS C08F020-28; C08F020-36; C08L033-06; C08L033-26; G03F007-038;
H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST chem **amplification resist** photoacid generator;
alicyclic acrylic polymer neg photoresist

IT **Negative photoresists**
(chemical **amplification-type photoresist**
containing acrylic polymer and photoacid generator)

IT 259528-63-7P 259528-65-9P **259528-66-0P**
259528-67-1P
(chemical **amplification-type photoresist**
containing acrylic polymer and photoacid generator)

IT 84563-54-2 171292-12-9
(chemical **amplification-type photoresist**
containing acrylic polymer and photoacid generator)

L31 ANSWER 29 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:129524 HCAPLUS

DOCUMENT NUMBER: 132:286212

TITLE: Cyclized copolymer of methacrylic anhydride
and an application to photoresist with
photoacid generator

AUTHOR(S): Takao, Yasuyuki; Miyagawa, Nobukazu; Takahara,
Shigeru; Yamaoka, Tsuguo

CORPORATE SOURCE: Department of Information and Image science,
Faculty of Engineering, Chiba University,
Chiba, 263-8522, Japan

SOURCE: Journal of Photopolymer Science and Technology
(1999), 12(5), 769-772

CODEN: JSTEEW; ISSN: 0914-9244

PUBLISHER: Technical Association of Photopolymers, Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The cyclized copolymn. of methacrylic anhydride with
N-phenyldimethacrylamide and methacrylonitrile was carried out.
The polymer consists of six-membered cyclic acid anhydride and
five-membered imide ring. The cyclic acid anhydride was
hydrolyzed by generated acid catalyst from photoacid generator
(PAG). The hydrolyzed copolymer is dissolved in an alkaline solution
The authors applied this copolymer with PAG to photoresist based
on the chemical amplified system and obtained good patterns of
pos.-tone image.

IT **263896-39-5P**, Methacrylic anhydride-N-
phenyldimethacrylamide copolymer
(cyclized copolymn. of methacrylic anhydride with
N-phenyldimethacrylamide in design of **resists** for
photolithog. applications)

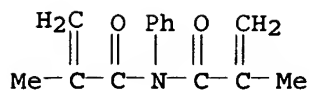
RN 263896-39-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, anhydride, polymer with
2-methyl-N-(2-methyl-1-oxo-2-propenyl)-N-phenyl-2-propenamide
(9CI) (CA INDEX NAME)

CM 1

CRN 7370-86-7

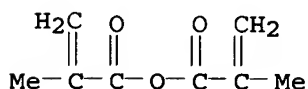
CMF C14 H15 N O2



CM 2

CRN 760-93-0

CMF C8 H10 O3



- CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
- IT **Photoresists**
(chemical **amplification**; cyclized copolymer of
methacrylic anhydride its acid-induced reaction and its
application to **photoresist** with photoacid generator)
- IT IR spectra
(cyclized copolymn. of methacrylic anhydride with
N-phenyldimethacrylamide in design of **resists** for
photolithog. applications)
- IT Polymerization
(cyclized; cyclized copolymn. of methacrylic anhydride with
N-phenyldimethacrylamide in design of **resists** for
photolithog. applications)
- IT 263896-37-3P, Methacrylic anhydride-methacrylonitrile-N-
phenyldimethacrylamide copolymer
(cyclized copolymer of methacrylic anhydride its acid-induced
reaction and its application to chemical **amplification**
photoresists)
- IT 66003-76-7, Diphenyliodonium trifluoromethanesulfonate
(cyclized copolymer of methacrylic anhydride its acid-induced
reaction and its application to chemical **amplification**
photoresists)
- IT 263896-39-5P, Methacrylic anhydride-N-
phenyldimethacrylamide copolymer
(cyclized copolymn. of methacrylic anhydride with
N-phenyldimethacrylamide in design of **resists** for
photolithog. applications)
- IT 75-59-2, Tetramethylammonium hydroxide
(developer; cyclized copolymer of methacrylic anhydride its
acid-induced reaction and its application to chemical
amplification photoresists)
- IT 104-15-4, 4-Toluenesulfonic acid, uses
(thermal reaction of cyclized copolymer of methacrylic
anhydride with acid catalyst in relation to its application to
photoresist with photoacid generator)
- REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L31 ANSWER 30 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:117258 HCAPLUS
 DOCUMENT NUMBER: 132:173395
 TITLE: Radiation-sensitive composition for chemically amplified photoresist
 INVENTOR(S): Pawlowski, Georg; Okazaki, Hiroshi; Kinoshita, Yoshiaki; Tsugama, Naoko; Hishida, Aritaka; Ma, Xiao-ming; Yamaguchi, Yuko
 PATENT ASSIGNEE(S): Clariant International Ltd., Switz.
 SOURCE: PCT Int. Appl., 133 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000008525	A1	20000217	WO 1999-JP4304	1999 0809

<--

W: CN, JP, KR, SG, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1033624	A1	20000906	EP 1999-935116	1999 0809

<--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6358665	B1	20020319	US 2000-529371	2000 0703

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PRIORITY APPLN. INFO.:	JP 1998-225029	A	1998 0807
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JP 1999-87036	A	1999 0329
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WO 1999-JP4304	W	1999 0809
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AB A chemical **amplification**-type radiation-sensitive composition comprising a film-forming resin based on a hydroxystyrene in combination with an onium salt precursor capable of generating a fluorinated alkanesulfonic acid as a radiation-sensitive acid-generating agent. This composition is free from the occurrence of corrosion of an apparatus owing to outgassing, the formation of a T-type pattern and the change of line width caused by a delay of processing time, and can be used for achieving a high sensitivity and resolving power and a good and stable pattern formation.
 IT 155040-27-0P, 4-Hydroxystyrene-tert-butyl methacrylate copolymer 174476-25-6DP, 4-Acetoxystyrene-4-tert-butyl acrylate copolymer, hydrolyzed, reaction products with Et vinyl ether

(radiation-sensitive composition for chemical amplified
photoresist)

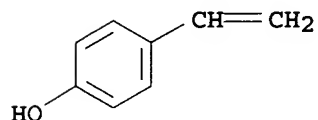
RN 155040-27-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with
4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 2628-17-3

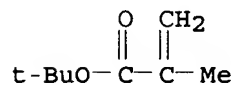
CMF C8 H8 O



CM 2

CRN 585-07-9

CMF C8 H14 O2



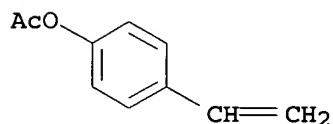
RN 174476-25-6 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with
4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 2628-16-2

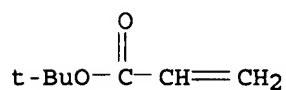
CMF C10 H10 O2



CM 2

CRN 1663-39-4

CMF C7 H12 O2



IC ICM G03F007-004

ICS G03F007-039; G03F007-038; C07C381-12; C07C309-06

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)

ST radiation sensitive compn chem **amplification**
resist

IT **Photoresists**
 (radiation-sensitive composition for chemical amplified
photoresist)

IT Onium compounds
 (radiation-sensitive composition for chemical amplified
photoresist)

IT 258871-80-6P, Tris(4-hydroxyphenyl)sulfonium 3,3,3,2,1,1-
 hexafluoropropanesulfonate
 (radiation-sensitive composition for chemical amplified
photoresist)

IT 76-05-1P, preparation 108-90-7P, Chlorobenzene, preparation
 109-92-2DP, Ethylvinyl ether, reaction product with functionalized
 styrene polymer 110-75-8DP, 2-Chloroethylvinyl ether, reaction
 product with 4-hydroxystyrene homopolymer 536-80-1P,
 Iodosylbenzene 827-52-1P, Cyclohexylbenzene 2628-17-3P
 5292-43-3DP, tert-Butylbromoacetate, reaction product with
 hydrolyzed 4-tert-Bu polymer 7758-05-6P, Potassium iodate
 12124-97-9P, Ammonium bromide 18995-35-2P 24979-70-2DP,
 4-Hydroxystyrene homopolymer, reaction product with functionalized
 vinyl compound 34619-03-9DP, Di-tert-butylcarbonate, reaction
 product with 4-hydroxystyrene homopolymer 68734-62-3P,
 Trimethylsilylnonafluorobutanesulfonate 94287-61-3P
 129361-29-1P 130100-38-8P 133685-94-6P 135648-85-0P,
 4-Hydroxystyrene-4-methoxystyrene copolymer 144317-44-2P,
 Triphenylsulfonium nonafluorobutanesulfonate **155040-27-0P**
 , 4-Hydroxystyrene-tert-butyl methacrylate copolymer
 158401-89-9P **174476-25-6DP**, 4-Acetoxystyrene-4-tert-
 butyl acrylate copolymer, hydrolyzed, reaction products with Et
 vinyl ether 175610-67-0P 176747-00-5P, Diphenyliodonium
 3,3,3,2,1,1-hexafluoropropanesulfonate 204065-67-8DP,
 4-Hydroxystyrene-4-methylstyrene copolymer, reaction product with
 ethoxy vinyl ether 241806-75-7P, Tris(4-tert-
 butylphenyl)sulfonium nonafluorobutanesulfonate 258871-76-0P,
 Tris(4-tert-butylphenyl)sulfonium 3,3,3,2,1,1-
 hexafluoropropanesulfonate 258871-78-2P, Tri(4-t-
 butoxyphenyl)sulfonium 3,3,3,2,1,1-hexafluoropropanesulfonate
 258871-81-7P, Tris(4-tert-butoxycarbonylmethoxyphenyl)sulfonium
 3,3,3,2,1,1-hexafluoropropanesulfonate 258871-83-9P,
 β -Oxocyclohexyl 2-norbonylmethyl sulfonium
 3,3,3,2,1,1-hexafluoropropanesulfonate 258871-84-0P,
 Bis(4-cyclohexylphenyl)iodonium 3,3,3,2,1,1-
 hexafluoropropanesulfonate 258871-85-1P, 4-
 Methylphenylphenyliodonium 3,3,3,2,1,1-hexafluoropropanesulfonate
 258871-86-2P, Bis(4-tert-butoxyphenyl)phenylsulfonium
 3,3,3,2,1,1-hexafluoropropanesulfonate 258871-88-4P,
 Bis(4-methylphenyl)-4-cyclohexylphenylsulfonium
 3,3,3,2,1,1-hexafluoropropanesulfonate 258871-89-5P,
 Tris(4-chlorophenyl)sulfonium 3,3,3,2,1,1-
 hexafluoropropanesulfonate 258871-90-8P, 4-Hydroxy-3,5-
 dimethylphenyldiphenylsulfonium 3,3,3,2,1,1-
 hexafluoropropanesulfonate 258871-91-9P, Di(4-t-
 butyloxyphenyl)iodonium 3,3,3,2,1,1-hexafluoropropanesulfonate
 258871-94-2P, Di(4-tert-butylcarbonyloxymethyloxyphenyl)iodonium
 3,3,3,2,1,1-hexafluoropropanesulfonate 258871-95-3P,
 4-tert-Butylphenylphenyliodonium 3,3,3,2,1,1-

hexafluoropropanesulfonate 258871-97-5P, 4-Hydroxystyrene-4-tetrahydropyranyloxystyrene- α,ω -triethyleneglycol divinyl ether copolymer 258871-99-7P, Tris(tert-butylcarbonylmethyloxyphenyl)sulfonium 3,3,3,2,1,1-hexafluoropropanesulfonate 258872-01-4P, Bis(4-cyclohexylphenyl)phenylsulfonium 3,3,3,2,1,1-hexafluoropropanesulfonate 258872-02-5P, 4-Hydroxystyrene-4-tert-butylloxycarbonyloxystyrene-tert-butyl methacrylate copolymer 258872-05-8P, Diphenyl 4-tert-butylphenylsulfonium nonafluorobutanesulfonate 258872-08-1P, Tris(4-butoxyphenyl)sulfonium nonafluorobutanesulfonate 258872-10-5P, Tris(4-tert-butoxycarbonylmethoxyphenyl)sulfonium nonafluorobutanesulfonate 258872-13-8P 258872-14-9P, Bis(4-cyclohexylphenyl)iodonium nonafluorobutylsulfonate 258872-15-0DP, 4-Acetoxy-styrene-styrene-tert-butyl methacrylate copolymer, reaction products with hydroxystyrene polymer derivative 258873-04-0P, Bis(4-hydroxyphenyliodonium) 3,3,3,2,1,1-hexafluoropropanesulfonate

(radiation-sensitive composition for chemical amplified photoresist)

IT 67-68-5, Dimethyl sulfoxide, reactions 71-43-2, Benzene, reactions 75-75-2, Methanesulfonic acid 107-59-5, tert-Butyl chloroacetate 357-31-3 375-73-5 507-19-7, tert-Butyl bromide 591-50-4, Iodobenzene 945-51-7, Diphenylsulfoxide 3085-42-5, 4,4'-Dichlorophenyl sulfoxide 5292-43-3, tert-Butylbromoacetate 29342-65-2, 2-Bromonorbornane 137455-55-1, Tris(4-tert-butoxyphenyl)sulfonium 170632-59-4, Bis(4-tert-butoxyphenyl)sulfoxide 258872-06-9, Diphenyl 4-tert-butylphenylsulfonium bromide 258872-11-6, Tris-4(tert-butoxyphenyl)sulfonium nonafluorobutanesulfonate 263871-53-0

(radiation-sensitive composition for chemical amplified photoresist)

IT 216679-67-3, Megafac R 08 258871-96-4, 4-Hydroxystyrene-styrene-tert-butyl methacrylate copolymer

(radiation-sensitive composition for chemical amplified photoresist)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 31 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:631478 HCAPLUS

DOCUMENT NUMBER: 131:264778

TITLE: Photoresist composition

INVENTOR(S): Ochiai, Koshiro; Fukui, Nobuhito

PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan

SOURCE: Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

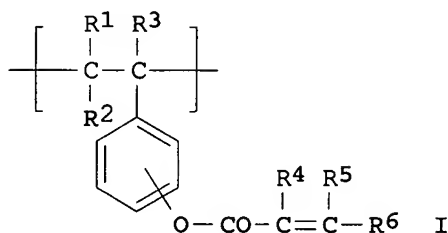
English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 945764	A2	19990929	EP 1999-106059	1999 0325

EP 945764 A3 20000419 <--
 EP 945764 B1 20030618
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO
 JP 11271977 A2 19991008 JP 1998-79033 1998
 0326
 JP 3546687 B2 20040728 <--
 SG 71202 A1 20000321 SG 1999-1534 1999
 0324
 CN 1230704 A 19991006 CN 1999-103239 1999
 0326
 US 6258507 B1 20010710 US 1999-276715 1999
 0326
 TW 227372 B1 20050201 TW 1999-88104825 1999
 0326
 PRIORITY APPLN. INFO.: <-- JP 1998-79033 A 1998
 0326
 GI <--



AB A photoresist composition which is particularly useful as a chemical
amplification type photoresist is provided, wherein the
 photoresist composition contains a resin having a structural unit
 represented by the formula I wherein R1, R2 and R3 each
 independently represents a hydrogen atom or an alkyl group having
 1 to 4 carbon atoms; R4 represents a hydrogen atom, an alkyl group
 having 1 to 4 carbon atoms, or an alkoxy group having 1 to 4
 carbon atoms; R5 represents a hydrogen atom, an alkyl group, or an
 aryl group, or R4 and R5 join together may form a ring, which may
 be heterocyclic; and R6 represents a hydrogen atom, an alkyl group
 having 1 to 4 carbon atoms, an alkoxy group having 1 to 4 carbon
 atoms, or a hydroxyl group.
 IT 81407-03-6DP, 1-ethoxyethyl ether
 (preparation and use in preparing chemical amplified **photoresists**
)
 RN 81407-03-6 HCAPLUS

CN Phenol, 4-ethenyl-, homopolymer, 3-phenyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 621-82-9

CMF C9 H8 O2

Ph-CH=CH-CO₂H

CM 2

CRN 24979-70-2

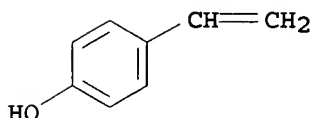
CMF (C8 H8 O)x

CCI PMS

CM 3

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-039

ICS G03F007-004

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST chem amplification photoresist polyvinylphenyl acrylate

IT **Photoresists**

(chemical amplified; containing poly(vinylphenyl acrylate) resins)

IT 4455-26-9, Methyldioctylamine 70384-51-9, Tris[2-(2-methoxyethoxy)ethyl]amine 138529-81-4,

Bis(cyclohexylsulfonyl)diazomethane

(chemical amplified **photoresists** containing poly(vinylphenyl carboxylate) resins and)

IT 81407-03-6DP, 1-ethoxyethyl ether 244630-25-9DP,

1-ethoxyethyl ether 244630-26-0DP, 1-ethoxyethyl ether

244630-27-1DP, 1-ethoxyethyl ether 244630-28-2DP, 1-ethoxyethyl

ether 244630-29-3DP, 1-ethoxyethyl ether

(preparation and use in preparing chemical amplified **photoresists**)

IT 24979-70-2, Poly(p-vinylphenol)

(reaction in preparing poly(vinylphenyl carboxylate) resins for chemical amplified **photoresists**)

IT 244630-24-8DP, Poly(p-vinylphenol) benzoate, 1-ethoxyethyl ether

(reaction in preparing poly(vinylphenyl carboxylate) resins for chemical amplified **photoresists**)

IT 98-88-4, Benzoyl chloride 100-07-2, 4-Anisoyl chloride

102-92-1, Cinnamoyl chloride 527-69-5, 2-Furoyl chloride

1711-05-3, 3-Anisoyl chloride 28788-62-7, 4-Butylbenzoyl

chloride 33863-86-4

(reaction with poly(vinylphenol) in preparing poly(vinylphenyl carboxylate) resins for chemical amplified photoresists)

L31 ANSWER 32 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1999:565473 HCAPLUS
 DOCUMENT NUMBER: 131:221220
 TITLE: Radiation-sensitive resin composition useful
 as chemically amplified resist
 INVENTOR(S): Suwa, Mitsufumi; Iwasawa, Haruo; Yamamoto,
 Masafumi; Kajita, Toru
 PATENT ASSIGNEE(S): JSR Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

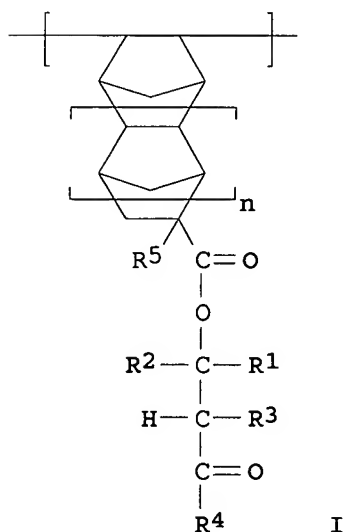
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 11242335	A2	19990907	JP 1998-60381	1998 0226

PRIORITY APPLN. INFO.:

<--
 JP 1998-60381
 1998
 0226

<--

GI



AB The title resin composition contains a resin insol. or slightly soluble in alkali having a repeating unit I (R1-6 = H, C1-6 straight-chain or branched alkyl, 5- to 8-membered cyclic alkyl, R1 and R2 and R3 and R4 may link each other to form a 5- to 8-membered cyclic alkyl; n = 0-3) and a radiation-sensitive acid-generator. The composition shows high storage stability, transparency toward

radiation, and developability and provides a high resolution pattern with good dry etch resistance and profile.

IT 242131-72-2P

(radiation-sensitive **resist** composition containing acid generator and polymer with norbornene group)

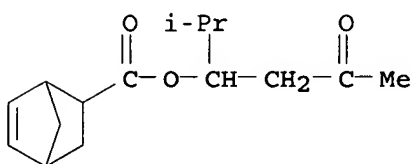
RN 242131-72-2 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-(1-methylethyl)-3-oxobutyl ester, polymer with 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 242131-71-1

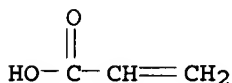
CMF C15 H22 O3



CM 2

CRN 79-10-7

CMF C3 H4 O2



IC ICM G03F007-038

ICS C08F032-00; C08L045-00; G03F007-004; H01L021-027; C09D145-00

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 38

ST radiation resist norbornene group polymer; acid generator chem **amplification resist**

IT **Resists**

(radiation-sensitive, chemical **amplification**; radiation-sensitive **resist** composition containing acid generator and polymer with norbornene group)

IT 238070-00-3P 242131-68-6P 242131-70-0P 242131-72-2P

242131-73-3P 242131-74-4P

(radiation-sensitive **resist** composition containing acid generator and polymer with norbornene group)

L31 ANSWER 33 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:735446 HCAPLUS

DOCUMENT NUMBER: 130:45302

TITLE: Resist containing nitrile compound and pattern formation using same

INVENTOR(S): Takechi, Satoshi; Kodachi, Akiko

PATENT ASSIGNEE(S): Fujitsu Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.

DOCUMENT TYPE: CODEN: JKXXAF
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: Japanese
 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10301285	A2	19981113	JP 1997-112698	1997 0430
JP 3770694	B2	20060426	JP 1997-112698	1997 0430

AB The chemical-amplified resist material contains an acid-sensitive compound having a structural unit in which the protected alkali-soluble group is released by acid to make the compound alkali-soluble, an acid-generating agent that generates acid by irradiation, and a nitrile compound. The material is coated on a substrate, selectively exposed to radiation, post-baked, and then developed to form a resist pattern. The composition shows high resolution, photosensitivity, dry etch resistance, and environmental stability.

IT 177080-68-1P, 2-Methyl-2-adamantyl methacrylate-mevalonolactone methacrylate copolymer 209982-57-0P, 2-Ethyl-2-adamantyl methacrylate-mevalonolactone methacrylate copolymer

(chemical amplification resist composition containing acid-sensitive compound, acid generator, and nitrile compound)

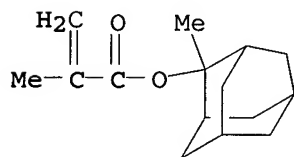
RN 177080-68-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

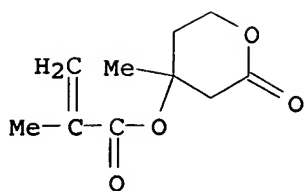
CMF C15 H22 O2



CM 2

CRN 177080-66-9

CMF C10 H14 O4



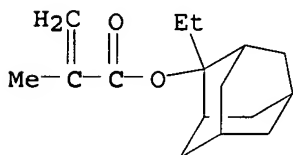
RN 209982-57-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

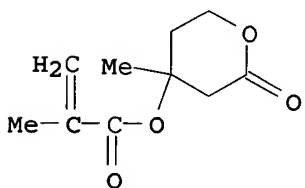
CMF C16 H24 O2



CM 2

CRN 177080-66-9

CMF C10 H14 O4



IC ICM G03F007-039

ICS G03F007-004; G03F007-38; H01L021-027; H01L021-312

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST chem **amplification resist** nitrile compd; acid sensitive compd chem **amplification resist**

IT **Resists**

(chemical **amplification resist** composition containing acid-sensitive compound, acid generator, and nitrile compound)

IT 86-29-3, Diphenylacetonitrile 107-13-1, 2-Propenenitrile, uses 126-98-7, Methacrylonitrile 15802-18-3D, α -Cyanoacrylic acid, esters 23074-42-2, 1-Cyanoadamantane 26352-07-8, Methacrylic acid-methacrylonitrile copolymer 51896-79-8, Cyanostyrene 64404-53-1D, esters

(chemical **amplification resist** composition containing

acid-sensitive compound, acid generator, and nitrile compound)
 IT 177080-68-1P, 2-Methyl-2-adamantyl methacrylate-
 mevalonolactone methacrylate copolymer 209982-57-0P,
 2-Ethyl-2-adamantyl methacrylate-mevalonolactone methacrylate
 copolymer
 (chemical amplification resist composition containing
 acid-sensitive compound, acid generator, and nitrile compound)
 IT 66003-78-9, Triphenylsulfonium triflate 216762-47-9,
 Acrylonitrile-methacrylic acid-2-methyl-2-adamantyl methacrylate
 copolymer
 (chemical amplification resist composition containing
 acid-sensitive compound, acid generator, and nitrile compound)

L31 ANSWER 34 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:555888 HCAPLUS

DOCUMENT NUMBER: 129:209343

TITLE: Chemically amplified resist containing
 vinylbenzenepropionic acid derivative
 copolymer and pattern formation using same

INVENTOR(S): Yamashita, Yoshio

PATENT ASSIGNEE(S): Oki Electric Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10228112	A2	19980825	JP 1997-33846	1997 0218
JP 3628135	B2	20050309	JP 1997-33846	1997 0218

AB The title resist contains, as a base resin, a (co)polymer having a monomer unit $\text{CH}[\text{C}_6\text{H}_4\text{CR}(\text{CH}_2)\text{nCO}_2\text{H-p}]\text{CH}_2$ ($\text{R} = \text{H}$ or $\text{CmH}_{2\text{m}+1}$; $\text{m} = 1-3$) or a (co)polymer prepared by polymerization of monomer(s) containing $\text{CH}_2:\text{CH}[\text{C}_6\text{H}_4\text{CR}(\text{CH}_2)\text{nCO}_2\text{H-p}]$. The resist may contain (1) a p-vinyl- β -alkylhydrocinnamic acid-tert-Bu p-vinyl- β -alkylhydrocinnamate copolymer or a p-vinylphenyl- β -alkylhydropropionic acid-methacrylic ester copolymer as a base resin and an acid-generating agent that generates acid upon light irradiation or (2) a p-vinylphenyl- β -alkylhydropropionic acid-Me p-vinyl- β -alkylhydrocinnamate copolymer base resin, the acid-generating agent, and a dissoln. inhibitor that inhibits the solubility of the base resin in alkaline solns. and is decomposed by the action of the acid to lose the dissoln. inhibiting ability. A patterning method using the compns. is also claimed. The resists show high transparency toward ArF excimer lasers and dry etching resistance.

IT 212255-88-4P
 (chemical amplification resist composition containing
 vinylbenzenepropionic acid derivative copolymer and acid generator)

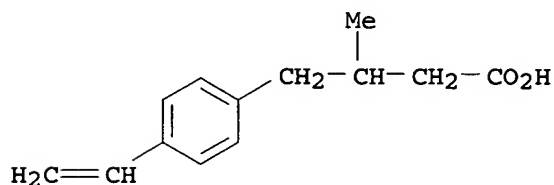
RN 212255-88-4 HCAPLUS

CN Benzenebutanoic acid, 4-ethenyl- β -methyl-, polymer with
1,1-dimethylethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 212255-87-3

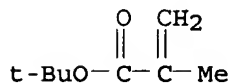
CMF C13 H16 O2



CM 2

CRN 585-07-9

CMF C8 H14 O2



IC ICM G03F007-039
ICS G03F007-004; G03F007-40; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST resist vinyl benzenepropionic acid copolymer; acid generator
resist; dissoln inhibitor chem **amplification**
resist

IT **Resists**
(chemical **amplification**; chemical **amplification**
resist composition containing vinylbenzenepropionic acid
copolymer and acid generator)

IT 212255-81-7P 212255-85-1P **212255-88-4P**
(chemical **amplification resist** composition containing
vinylbenzenepropionic acid derivative copolymer and acid generator)

IT 66003-78-9, Triphenylsulfonium triflate
(chemical **amplification resist** composition containing
vinylbenzenepropionic acid derivative copolymer and acid generator)

IT 37994-89-1
(dissoln. inhibitor; chemical **amplification**
resist composition containing vinylbenzenepropionic acid derivative
copolymer and acid generator)

L31 ANSWER 35 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:535423 HCAPLUS

DOCUMENT NUMBER: 129:154694

TITLE: Chemical-**amplification** positive
photoresist composition

INVENTOR(S): Uetani, Yasunori; Fujishima, Hiroaki; Miya,
Yoshiko

PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 14 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 856773	A1	19980805	EP 1998-101371	1998 0127
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EP 856773	B1	20010613		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 10274852	A2	19981013	JP 1998-12406	1998 0126
<--				
JP 3546679	B2	20040728		
TW 482946	B	20020411	TW 1998-87101061	1998 0126
<--				
PRIORITY APPLN. INFO.:			JP 1997-15353	A 1997 0129

AB The present invention provides a chemical-**amplification** pos. photoresist composition comprising a resin component and an acid generator, which is superior in various resist performances such as resolution, and is particularly superior in adhesion to a substrate, the resin component having a butyrolactone residue which may be substituted with an alkyl group and a group capable of cleaving by action of an acid.

IT 195000-67-0P 210816-41-4P
 (preparation and use in preparing chemical-**amplification** pos. photoresist compns.)

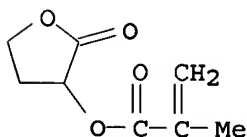
RN 195000-67-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 195000-66-9

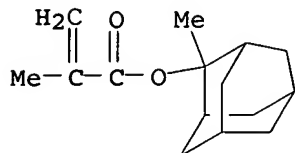
CMF C8 H10 O4



CM 2

CRN 177080-67-0

CMF C15 H22 O2



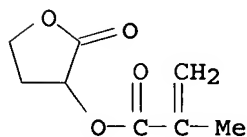
RN 210816-41-4 HCAPLUS

CN Tricyclo[3.3.1.1^{3,7}]decane-1-carboxylic acid, 2-[1-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 195000-66-9

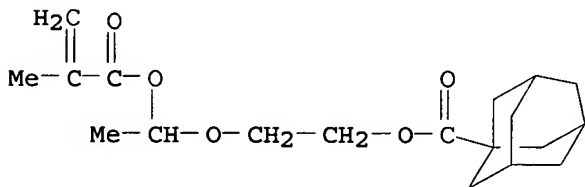
CMF C8 H10 O4



CM 2

CRN 181894-81-5

CMF C19 H28 O5



IC ICM G03F007-039

ICS G03F007-004

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST chem **amplification photoresist** resin
butyrolactone group

IT **Photoresists**

(chemical-**amplification**; containing butyrolactone group-containing resins)

IT 120-07-0, N-Phenyldiethanolamine 10409-06-0, Diphenyldisulfone 24544-04-5, 2,6-Diisopropylaniline

(chemical-amplification pos. photoresist compns. containing butyrolactone group-containing resins and)

IT 177080-67-0P 181894-81-5P 195000-66-9P
(preparation and reaction in preparing butyrolactone group-containing resins for chemical-amplification pos. photoresist compns.)

IT 195000-67-0P 210816-40-3P 210816-41-4P
210816-42-5P 210816-43-6P 210816-44-7P 210816-45-8P
(preparation and use in preparing chemical-amplification pos. photoresist compns.)

IT 79-41-4, Methacrylic acid, reactions 110-86-1, Pyridine, reactions 121-44-8, Triethylamine, reactions 585-07-9, tert-Butyl methacrylate 702-98-7, 2-Methyl-2-adamantanol 920-46-7, Methacrylic chloride 2094-72-6 5061-21-2, α -Bromo- γ -butyrolactone 7534-94-3, Isobornyl methacrylate 51920-52-6, 1-Ethoxyethyl methacrylate 138554-09-3, 1-Isobutoxyethyl methacrylate
(reaction in preparing butyrolactone group-containing resins for chemical-amplification pos. photoresist compns.)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 36 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:407889 HCAPLUS
DOCUMENT NUMBER: 129:154699
TITLE: Chemically amplified photoresist composition and patterning using it
INVENTOR(S): Maeda, Katsumi; Iwasa, Shigeyuki; Nakano, Kaichiro; Hasegawa, Etsuo
PATENT ASSIGNEE(S): NEC Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10171122	A2	19980626	JP 1996-335603	1996 1216
JP 2943740	B2	19990830	JP 1996-335603	1996 1216

AB In the title composition containing a resin in which the acid-decomposable groups are decomposed by the action of acid to increase the solubility in aqueous alkaline solns. and a photoacid-generating agent, the acid-decomposable group has the general formula CMe₂R₁OR₂ (R₁ = C₆-10 divalent hydrocarbon having cyclic hydrocarbon groups; R₂ = H, C₁-4 alkyl, acyl). The composition is applied on a substrate to be processed, pre-baked, patternwise exposed with light of wavelength 180-220 nm, post-baked, and developed to form a resist pattern. The composition shows high transparency, dry-etching resistance,

adhesion to substrates, resolution, and developability.

IT 210640-76-9P 210715-08-5P 210715-10-9P
210715-11-0P
(patterning of chemical amplified photoresist composition with UV)

RN 210640-76-9 HCAPLUS

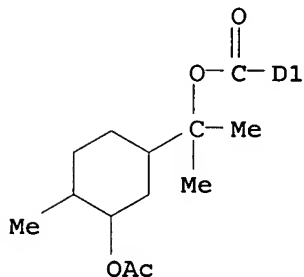
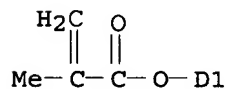
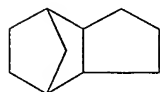
CN 4,7-Methano-1H-indenecarboxylic acid, octahydro-2(or 5)-[(2-methyl-1-oxo-2-propenyl)oxy]-, 1-[3-(acetyloxy)-4-methylcyclohexyl]-1-methylethyl ester, polymer with octahydro-2(or 5)-[(2-methyl-1-oxo-2-propenyl)oxy]-4,7-methano-1H-indenecarboxylic acid (9CI) (CA INDEX NAME)

CM 1

CRN 210640-75-8

CMF C27 H40 O6

CCI IDS

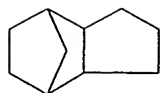
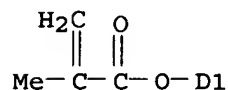


CM 2

CRN 210640-74-7

CMF C15 H20 O4

CCI IDS

D1- CO₂H

RN 210715-08-5 HCAPLUS

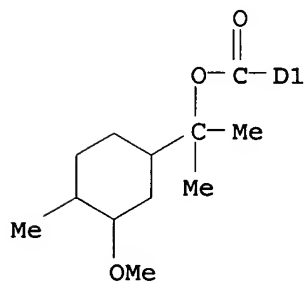
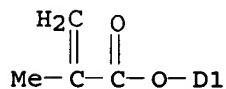
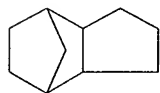
CN 4,7-Methano-1H-indenecarboxylic acid, octahydro-2(or
5)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with
1-(3-methoxy-4-methylcyclohexyl)-1-methylethyl octahydro-2(or
5)-[(2-methyl-1-oxo-2-propenyl)oxy]-4,7-methano-1H-
indenecarboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 210640-79-2

CMF C26 H40 O5

CCI IDS

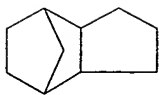
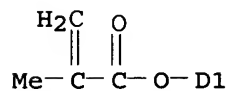


CM 2

CRN 210640-74-7

CMF C15 H20 O4

CCI IDS

D1-CO₂H

RN 210715-10-9 HCAPLUS

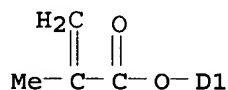
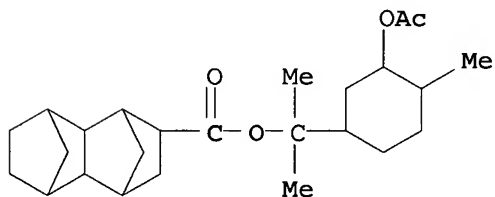
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-[3-(acetyloxy)-4-methylcyclohexyl]-1-methylethyl decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-1,4:5,8-dimethanonaphthalene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 210640-85-0

CMF C29 H42 O6

CCI IDS

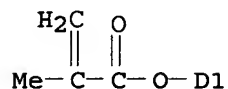
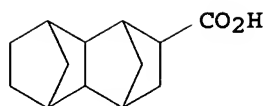


CM 2

CRN 195398-48-2

CMF C17 H22 O4

CCI IDS



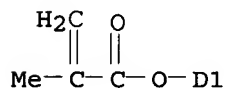
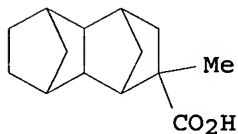
RN 210715-11-0 HCAPLUS
 CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid,
 decahydro-2-methyl-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-,
 polymer with 1-[3-(acetyloxy)-4-methylcyclohexyl]-1-methylethyl
 decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-1,4:5,8-
 dimethanonaphthalene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 210640-88-3

CMF C18 H24 O4

CCI IDS

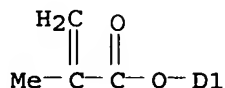
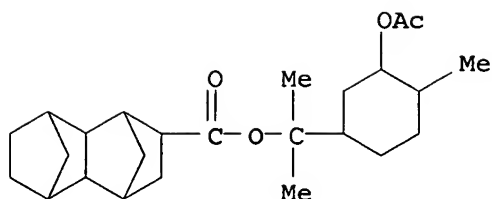


CM 2

CRN 210640-85-0

CMF C29 H42 O6

CCI IDS



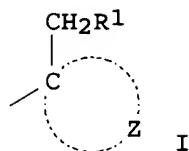
- IC ICM G03F007-039
ICS G03F007-30; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
- ST chem **amplification photoresist** acid
decomposable group; cycloalkyl ester acrylate polymer resist UV
- IT **Photoresists**
(UV; patterning of chemical amplified **photoresist** composition
with UV)
- IT 210573-91-4P, 2-Methoxy-8-acetoxy-p-menthane
(deacetylation of; patterning of chemical amplified
photoresist composition with UV)
- IT 210573-90-3P, 2-Hydroxy-8-acetoxy-p-menthane
(methylation of; patterning of chemical amplified
photoresist composition with UV)
- IT 184856-56-2P 195398-48-2P 210573-88-9P, 2-Acetoxy-p-menthan-8-
ol 210573-89-0P, 2-Methoxy-p-menthan-8-ol 210715-12-1P
(patterning of chemical amplified **photoresist** composition
with UV)
- IT 210573-84-5P 210573-85-6P 210573-86-7P 210573-87-8P
210640-76-9P 210640-85-0P 210640-88-3P 210641-03-5P
210641-20-6P 210715-08-5P 210715-09-6P
210715-10-9P 210715-11-0P 210715-13-2P
210715-14-3P 210715-15-4P
(patterning of chemical amplified **photoresist** composition
with UV)
- IT 120-74-1P
(patterning of chemical amplified **photoresist** composition
with UV)
- IT 173161-66-5P 195398-50-6P 195891-99-7P
(patterning of chemical amplified **photoresist** composition
with UV)
- IT 80-26-2 814-68-6, Acryloyl chloride 920-46-7, Methacryloyl
chloride 28132-01-6, Tricyclo[5.2.1.0^{2,6}]decane-4,8-dimethanol
38049-26-2, Dihydrocarveol 58506-23-3, 2,8-Dihydroxy-p-menthane
195057-79-5, 8-tert-Butoxycarbonyltetracyclo[4.4.0.1^{2,5}.1^{7,10}]-3-
dodecene
(patterning of chemical amplified **photoresist** composition
with UV)

L31 ANSWER 37 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:398618 HCAPLUS
DOCUMENT NUMBER: 129:115627
TITLE: Chemical **amplification**-type resist

INVENTOR(S): and pattern formation
 Takechi, Satoshi; Kotachi, Akiko
 PATENT ASSIGNEE(S): Fujitsu Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10161313	A2	19980619	JP 1996-320105	1996 1129
JP 3380128	B2	20030224	<--	
JP 2003149817	A2	20030521	JP 2002-297761	1996 1129
TW 502134	B	20020911	TW 1997-86117963	1997 1128
US 2001003640	A1	20010614	US 2000-739259	2000 1219
US 6329125	B2	20011211	<--	
PRIORITY APPLN. INFO.:			JP 1995-162287	A 1995 0628
			JP 1995-178717	A 1995 0714
			JP 1995-312722	A 1995 1130
			JP 1996-50264	A 1996 0307
			US 1996-673739	A2 1996 0627
			JP 1996-320105	A3 1996 1129
			US 1997-969368	A3 1997 1128
			<--	

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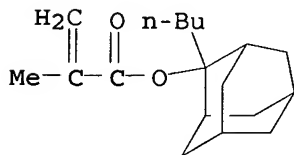


- AB The chemical **amplification resist** composition contains an acid-sensitive compound having a structural unit bearing an alkali-soluble group protected by an alicyclic hydrocarbon-containing part I (R1 = Me, Et, Pr, iso-Pr; Z = atoms required to form an alicyclic hydrocarbon group along with the C), in which the alkali-soluble group is released by the action of acid so that the compound becomes alkali-soluble, and an acid-generating agent that generates acid upon irradiation. The composition is coated on a substrate to be processed, selectively exposed to radiation to form a latent image, post-baked, and developed the image to form a resist pattern. The material shows high sensitivity (≤ 5 mJ/cm²) in ArF lithog., exposure latitude, and dry etch resistance.
- IT 209982-55-8P, 2-Butyl-2-adamantyl methacrylate-mevalonolactone methacrylate copolymer 209982-57-0P, 2-Ethyl-2-adamantyl methacrylate-mevalonolactone methacrylate copolymer 209982-58-1P, 2-Butyl-2-adamantyl methacrylate-methacrylic acid copolymer 209982-59-2P, 2-Butyl-2-adamantyl methacrylate-itaconic acid anhydride copolymer (chemical **amplification resist** composition containing acid-sensitive compound with alkali-soluble group protected by alicyclic group)
- RN 209982-55-8 HCAPLUS
- CN 2-Propenoic acid, 2-methyl-, 2-butyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-54-7

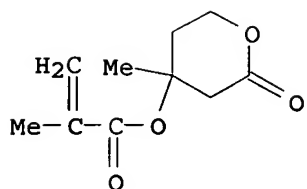
CMF C18 H28 O2



CM 2

CRN 177080-66-9

CMF C10 H14 O4



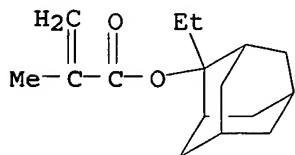
RN 209982-57-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1.3,7]dec-2-yl ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

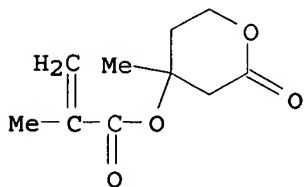
CMF C16 H24 O2



CM 2

CRN 177080-66-9

CMF C10 H14 O4



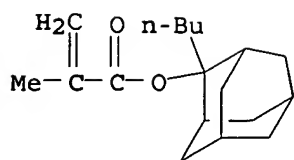
RN 209982-58-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2-butyltricyclo[3.3.1.1.3,7]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

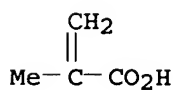
CRN 209982-54-7

CMF C18 H28 O2



CM 2

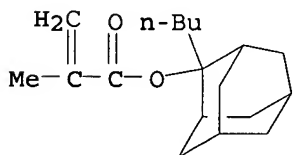
CRN 79-41-4
CMF C4 H6 O2



RN 209982-59-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-butyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with dihydro-3-methylene-2,5-furandione (9CI) (CA INDEX NAME)

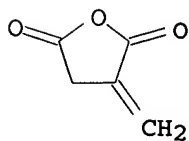
CM 1

CRN 209982-54-7
CMF C18 H28 O2



CM 2

CRN 2170-03-8
CMF C5 H4 O3



IC ICM G03F007-039
ICS G03F007-039; G03F007-004; G03F007-033; G03F007-38;
H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST chem **amplification resist** acid sensitive
compd; alicyclic protected alkali sol group resist

IT **Resists**
(chemical **amplification resist** composition containing
acid-sensitive compound with alkali-soluble group protected by
alicyclic group)

IT 209982-55-8P, 2-Butyl-2-adamantyl methacrylate-
mevalonolactone methacrylate copolymer 209982-57-0P,
2-Ethyl-2-adamantyl methacrylate-mevalonolactone methacrylate
copolymer 209982-58-1P, 2-Butyl-2-adamantyl
methacrylate-methacrylic acid copolymer 209982-59-2P,
2-Butyl-2-adamantyl methacrylate-itaconic acid anhydride copolymer
209982-60-5P, 2-Butyl-2-adamantyl methacrylate-tert-butyl
methacrylate-methacrylic acid copolymer
(chemical **amplification resist** composition containing
acid-sensitive compound with alkali-soluble group protected by
alicyclic group)

L31 ANSWER 38 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1997:471371 HCAPLUS

DOCUMENT NUMBER: 127:227270

TITLE: New protective groups in alicyclic
methacrylate polymers for 193-nm resists

AUTHOR(S): Nozaki, Koji; Yano, Ei

CORPORATE SOURCE: Fujitsu Laboratories Ltd., Atugi, 243-01,
Japan

SOURCE: Journal of Photopolymer Science and Technology
(1997), 10(4), 545-550
CODEN: JSTEED; ISSN: 0914-9244

PUBLISHER: Technical Association of Photopolymers, Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Methacrylate polymer with two acid labile protective groups,
mevalonic lactone and 2-methyl-2-adamantanol was used as a single
layer resist for 193 nm exposure. To improve lithog. performance
of this resist the lactone group was replaced by other protective
groups. The polarity and acid cleavability of these protective
groups and their matching with 2-methyl-2-adamantyl group was
studied. Among the 5 studied protective groups,
3-hydroxy- γ -butyrolactone yielded the best lithog.
properties.

IT 195000-64-7P 195000-67-0P 195000-69-2P
195000-71-6P 195000-73-8P

(lithog. chemical **amplification photoresist**
from methyladamantanol methacrylate copolymer with methacrylate
containing polar protective group)

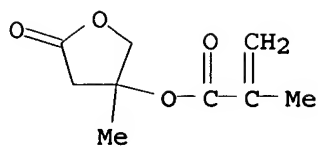
RN 195000-64-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl,
polymer with tetrahydro-3-methyl-5-oxo-3-furanyl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 195000-63-6

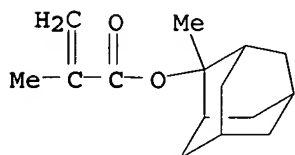
CMF C9 H12 O4



CM 2

CRN 177080-67-0

CMF C15 H22 O2



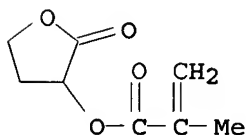
RN 195000-67-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl
 ester, polymer with tetrahydro-2-oxo-3-furanyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 195000-66-9

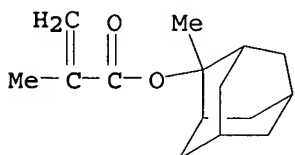
CMF C8 H10 O4



CM 2

CRN 177080-67-0

CMF C15 H22 O2



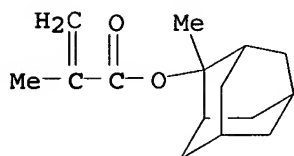
RN 195000-69-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl
 ester, polymer with tetrahydro-5-oxo-3-furanyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

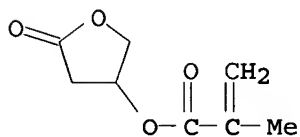
CMF C15 H22 O2



CM 2

CRN 130224-95-2

CMF C8 H10 O4



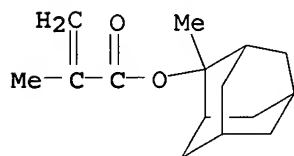
RN 195000-71-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl
 ester, polymer with tetrahydro-3-furanyl 2-methyl-2-propenoate
 (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

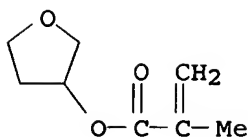
CMF C15 H22 O2



CM 2

CRN 4245-24-3

CMF C8 H12 O3



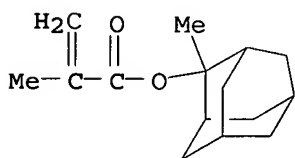
RN 195000-73-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with (2-oxo-1,3-dioxolan-4-yl)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

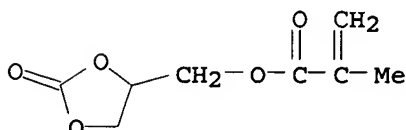
CMF C15 H22 O2



CM 2

CRN 13818-44-5

CMF C8 H10 O5



CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)

ST lithog photoresist methacrylate polymer protective group;
methyladamantanol methacrylate copolymer chem
amplification photoresist

IT Photoresists

(chemical amplification; containing methyladamantanol
methacrylate copolymer with methacrylate containing polar
protective group)

IT 920-46-7, Methacryloyl chloride

(in preparation of monomer for polymerization with methyladamantanol
methacrylate for application as lithog. chemical
amplification photoresist)

IT 108-65-6, Propylene glycol-1-methyl ether-2-acetate

(lithog. chemical amplification photoresist
from methyladamantanol methacrylate copolymer with methacrylate
containing polar protective group)

IT 195000-64-7P 195000-67-0P 195000-69-2P
195000-71-6P 195000-73-8P

(lithog. chemical **amplification photoresist**
from methyladamantanol methacrylate copolymer with methacrylate
containing polar protective group)
IT 66003-78-9, Triphenylsulfonium triflate
(lithog. chemical **amplification photoresist**
from methyladamantanol methacrylate copolymer with methacrylate
containing polar protective group)
IT 4245-24-3P 130224-95-2P
(polymerization with methyladamantanol methacrylate for application as
lithog. chemical **amplification photoresist**)
IT 13818-44-5 195000-63-6
(polymerization with methyladamantanol methacrylate for application as
lithog. chemical **amplification photoresist**)
IT 195000-66-9P
(polymerization with methyladamantanol methacrylate for application as
lithog. chemical **amplification photoresist**)

L31 ANSWER 39 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1997:134745 HCAPLUS

DOCUMENT NUMBER: 126:150516

TITLE: Chemical **amplification**

resist composition and method to
manufacture resist master using the same

INVENTOR(S): Nozaki, Koji; Yano, Ei; Watanabe, Keiji;
Namiki, Takahisa; Igarashi, Miwa; Kuramitsu,
Yoko; Takechi, Satoshi; Kotachi, Akiko;
Takahashi, Makoto

PATENT ASSIGNEE(S): Fujitsu Ltd., Japan

SOURCE: Ger. Offen., 87 pp.

CODEN: GWXXBX

DOCUMENT TYPE: **Patent**

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 19626003	A1	19970102	DE 1996-19626003	1996 0628
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DE 19626003	C2	20020214		
JP 09090637	A2	19970404	JP 1995-312722	1995 1130
			<--	
JP 3297272	B2	20020702		
JP 09073173	A2	19970318	JP 1996-50264	1996 0307
			<--	
JP 3751065	B2	20060301		
KR 206664	B1	19990701	KR 1996-24415	1996 0627
			<--	
JP 2006091898	A2	20060406	JP 2005-288764	2005 0930

PRIORITY APPLN. INFO.: <--
 JP 1995-162287 A 1995
 0628
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 JP 1995-178717 A 1995
 0714
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 JP 1995-312722 A 1995
 1130
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 JP 1996-50264 A 1996
 0307

AB The title alkali-developable resist composition comprises a compound with lactone component (Markush structure given) and alicyclic hydrocarbyl component (Markush structure given). The lactone component may be (±)-mevalonic lactone and the alicyclic hydrocarbyl component may be 2-alkyl-2-adamantyl. The composition is useful in an Excimer laser lithog. to produce resist-master with high sensitivity and excellent dry etch-resistance.

IT 169223-75-0P, tert-Butyl acrylate- 1-adamantyl methacrylate copolymer 181020-29-1P 181531-12-4P
 181531-13-5P 186585-40-0P 186585-44-4P
 186585-47-7P 186585-49-9P 186585-51-3P
 186585-53-5P 186585-55-7P 186585-57-9P
 186585-60-4P 186585-63-7P 186585-66-0P
 186585-68-2P 186585-70-6P 186585-72-8P
 186585-75-1P 186585-84-2P 186585-90-0P
 186585-92-2P 186585-93-3P 186585-94-4P
 186585-95-5P 186585-96-6P 186585-97-7P
 186585-98-8P 186585-99-9P 186586-00-5P
 186586-01-6P 186586-02-7P 186586-03-8P
 186586-04-9P 186586-06-1P 186586-08-3P

(chemical amplification resist composition)

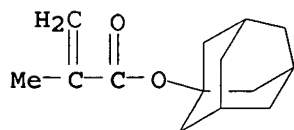
RN 169223-75-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with 1,1-dimethylethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 16887-36-8

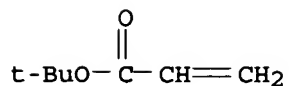
CMF C14 H20 O2



CM 2

CRN 1663-39-4

CMF C7 H12 O2



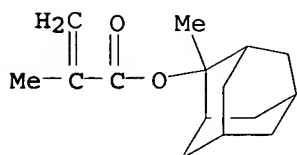
RN 181020-29-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

CMF C15 H22 O2



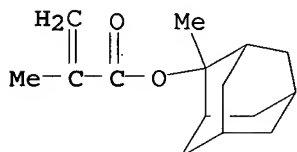
RN 181531-12-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

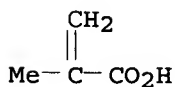
CMF C15 H22 O2



CM 2

CRN 79-41-4

CMF C4 H6 O2



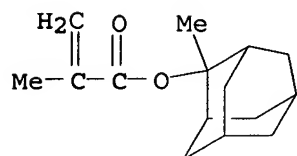
RN 181531-13-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 3-oxocyclohexyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

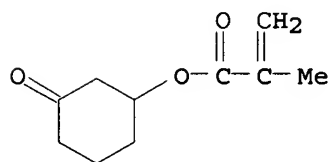
CMF C15 H22 O2



CM 2

CRN 158602-67-6

CMF C10 H14 O3



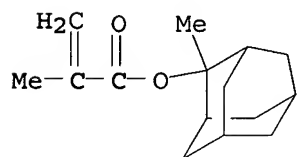
RN 186585-40-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3]dec-2-yl
 ester, polymer with 1,1-dimethylethyl 2-propenoate (9CI) (CA
 INDEX NAME)

CM 1

CRN 177080-67-0

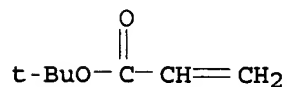
CMF C15 H22 O2



CM 2

CRN 1663-39-4

CMF C7 H12 O2

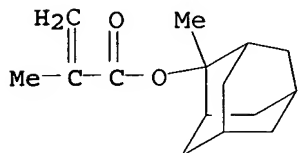


RN 186585-44-4 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 1,1-dimethyl-3-oxobutyl ester,
 polymer with 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

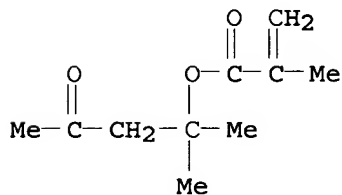
CMF C15 H22 O2



CM 2

CRN 93940-09-1

CMF C10 H16 O3

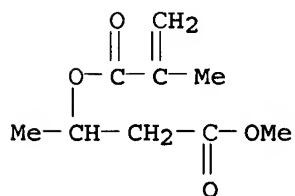


RN 186585-47-7 HCAPLUS
 CN Butanoic acid, 3-[(2-methyl-1-oxo-2-propenyl)oxy]-, methyl ester,
 polymer with 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 186585-46-6

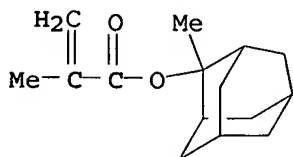
CMF C9 H14 O4



CM 2

CRN 177080-67-0

CMF C15 H22 O2



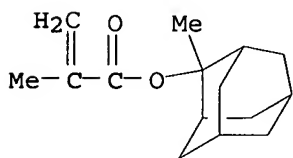
RN 186585-49-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with
2-methyltricyclo[3.3.1.1.3,7]dec-2-yl 2-methyl-2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 177080-67-0

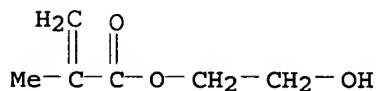
CMF C15 H22 O2



CM 2

CRN 868-77-9

CMF C6 H10 O3



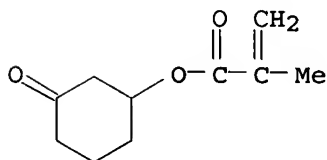
RN 186585-51-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methylcyclohexyl ester, polymer
with 3-oxocyclohexyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 158602-67-6

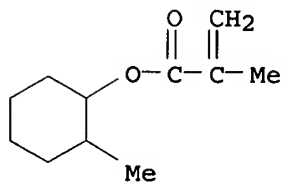
CMF C10 H14 O3



CM 2

CRN 46187-22-8

CMF C11 H18 O2



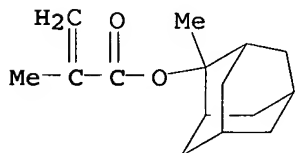
RN 186585-53-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

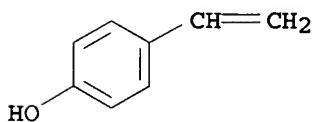
CMF C15 H22 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



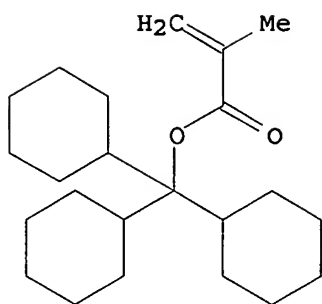
RN 186585-55-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tricyclohexylmethyl ester, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 186585-54-6

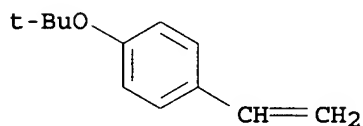
CMF C23 H38 O2



CM 2

CRN 95418-58-9

CMF C12 H16 O



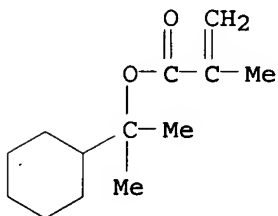
RN 186585-57-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-cyclohexyl-1-methylethyl ester,
polymer with 1,1-dimethylethyl 2-methyl-2-propenoate (9CI) (CA
INDEX NAME)

CM 1

CRN 186585-56-8

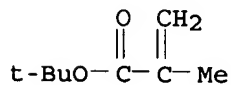
CMF C13 H22 O2



CM 2

CRN 585-07-9

CMF C8 H14 O2

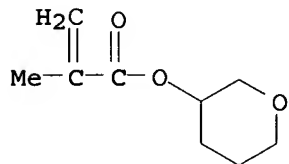


RN 186585-60-4 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 1-cyclohexyl-1-methylethyl ester,
 polymer with tetrahydro-2H-pyran-3-yl 2-methyl-2-propenoate (9CI)
 (CA INDEX NAME)

CM 1

CRN 186585-59-1

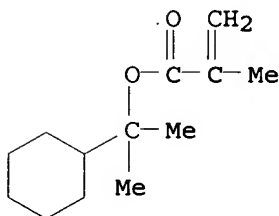
CMF C9 H14 O3



CM 2

CRN 186585-56-8

CMF C13 H22 O2

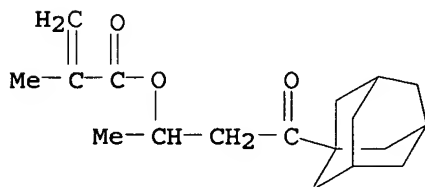


RN 186585-63-7 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with
 1-methyl-3-oxo-3-tricyclo[3.3.1.1^{3,7}]dec-1-ylpropyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

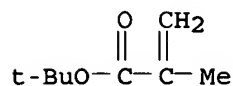
CRN 186585-62-6

CMF C18 H26 O3



CM 2

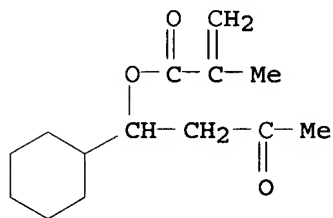
CRN 585-07-9
CMF C8 H14 O2



RN 186585-66-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-cyclohexyl-3-oxobutyl ester,
polymer with 1,1-dimethylethyl 2-methyl-2-propenoate (9CI) (CA
INDEX NAME)

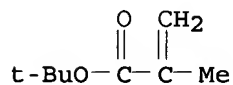
CM 1

CRN 186585-65-9
CMF C14 H22 O3



CM 2

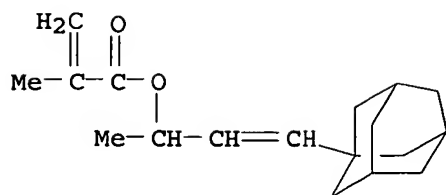
CRN 585-07-9
CMF C8 H14 O2



RN 186585-68-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with
1-methyl-3-tricyclo[3.3.1.1^{3,7}]dec-1-yl-2-propenyl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

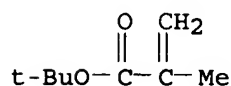
CRN 186585-67-1
CMF C18 H26 O2



CM 2

CRN 585-07-9

CMF C8 H14 O2



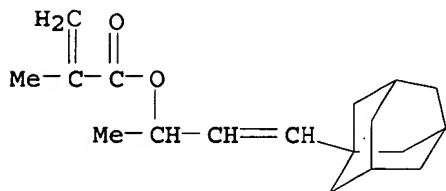
RN 186585-70-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-methyl-3-tricyclo[3.3.1.1.3,7]dec-1-yl-2-propenyl ester, polymer with 3-oxocyclohexyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 186585-67-1

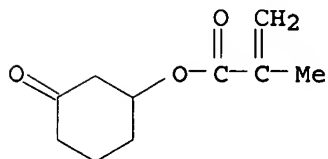
CMF C18 H26 O2



CM 2

CRN 158602-67-6

CMF C10 H14 O3



RN 186585-72-8 HCAPLUS

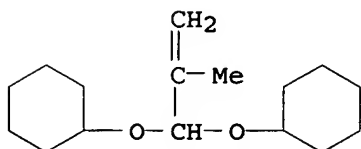
CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with 1,1'-[(2-methyl-2-propenylidene)bis(oxy)]bis[cyclohexane] (9CI)

(CA INDEX NAME)

CM 1

CRN 186585-71-7

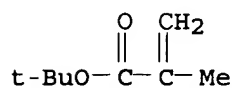
CMF C16 H28 O2



CM 2

CRN 585-07-9

CMF C8 H14 O2



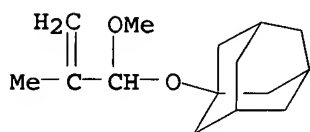
RN 186585-75-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-oxocyclohexyl ester, polymer with
1-[(1-methoxy-2-methyl-2-propenyl)oxy]tricyclo[3.3.1.1^{3,7}]decane
(9CI) (CA INDEX NAME)

CM 1

CRN 186585-74-0

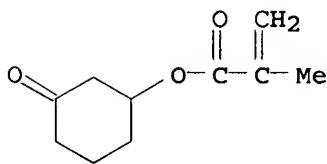
CMF C15 H24 O2



CM 2

CRN 158602-67-6

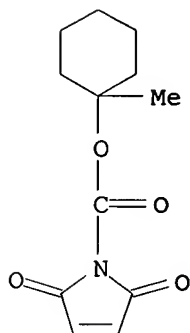
CMF C10 H14 O3



RN 186585-84-2 HCAPLUS
 CN 1H-Pyrrole-1-carboxylic acid, 2,5-dihydro-2,5-dioxo-,
 1-methylcyclohexyl ester, polymer with 1,1-dimethylethyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

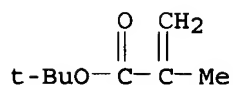
CM 1

CRN 186585-83-1
 CMF C12 H15 N O4



CM 2

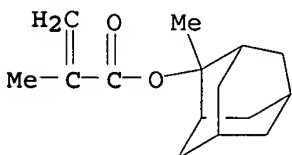
CRN 585-07-9
 CMF C8 H14 O2



RN 186585-90-0 HCAPLUS
 CN Butanedioic acid, methylene-, polymer with 2-
 methyltricyclo[3.3.1.1.3,7]dec-2-yl 2-methyl-2-propenoate (9CI)
 (CA INDEX NAME)

CM 1

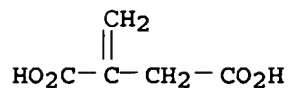
CRN 177080-67-0
 CMF C15 H22 O2



CM 2

CRN 97-65-4

CMF C5 H6 O4



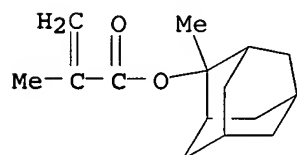
RN 186585-92-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

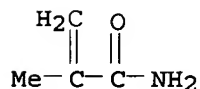
CMF C15 H22 O2



CM 2

CRN 79-39-0

CMF C4 H7 N O



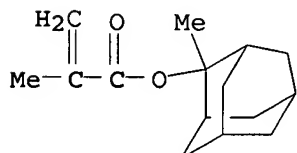
RN 186585-93-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 1H-pyrrole-2,5-dione (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

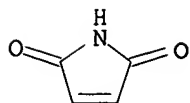
CMF C15 H22 O2



CM 2

CRN 541-59-3

CMF C4 H3 N O2



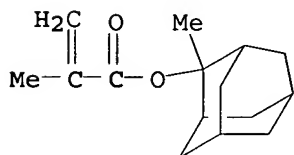
RN 186585-94-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 3-ethenyldihydro-2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

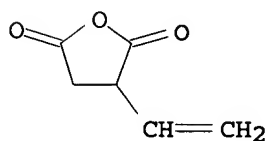
CMF C15 H22 O2



CM 2

CRN 39739-64-5

CMF C6 H6 O3



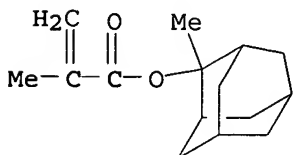
RN 186585-95-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-4,4-dimethyl-2-oxo-3-furanyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

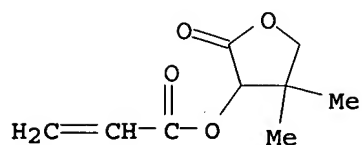
CMF C15 H22 O2



CM 2

CRN 84822-49-1

CMF C9 H12 O4



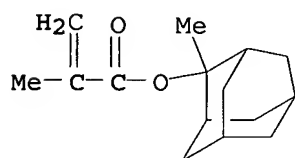
RN 186585-96-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 2-propenal oxime (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

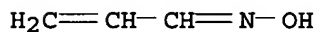
CMF C15 H22 O2



CM 2

CRN 5314-33-0

CMF C3 H5 N O



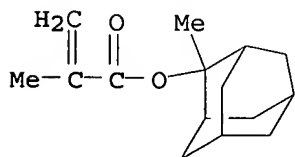
RN 186585-97-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 1,3-dioxol-2-one (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

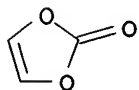
CMF C15 H22 O2



CM 2

CRN 872-36-6

CMF C3 H2 O3



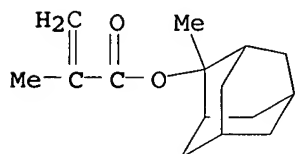
RN 186585-98-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 ester, polymer with 2-ethenyl-4,4-dimethyl-5(4H)-oxazolone (9CI)
 (CA INDEX NAME)

CM 1

CRN 177080-67-0

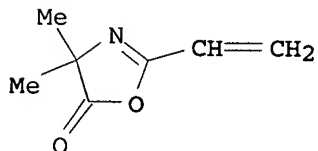
CMF C15 H22 O2



CM 2

CRN 29513-26-6

CMF C7 H9 N O2



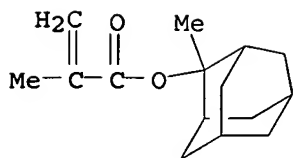
RN 186585-99-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 ester, polymer with 2-ethenyl-5,6-dihydro-5,5-dimethyl-4H-1,3-
 oxazine (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

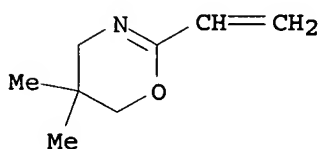
CMF C15 H22 O2



CM 2

CRN 90154-90-8

CMF C8 H13 N O



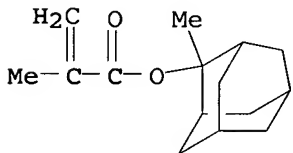
RN 186586-00-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl
 ester, polymer with 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX
 NAME)

CM 1

CRN 177080-67-0

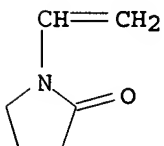
CMF C15 H22 O2



CM 2

CRN 88-12-0

CMF C6 H9 N O



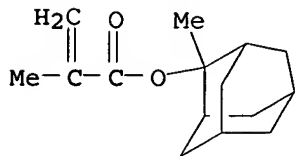
RN 186586-01-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl
 ester, polymer with 2-propenenitrile (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

CMF C15 H22 O2



CM 2

CRN 107-13-1

CMF C3 H3 N



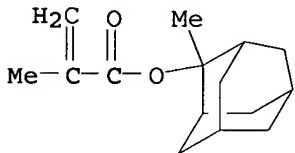
RN 186586-02-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1.3]dec-2-yl ester, polymer with ethylnitrobenzene (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

CMF C15 H22 O2

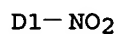
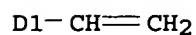


CM 2

CRN 1321-22-8

CMF C8 H7 N O2

CCI IDS



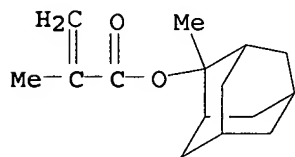
RN 186586-03-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 2-propenal (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

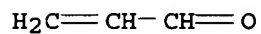
CMF C15 H22 O2



CM 2

CRN 107-02-8

CMF C3 H4 O



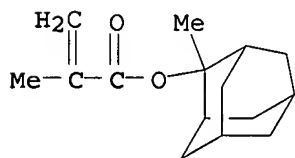
RN 186586-04-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

CMF C15 H22 O2



CM 2

CRN 108-05-4

CMF C4 H6 O2



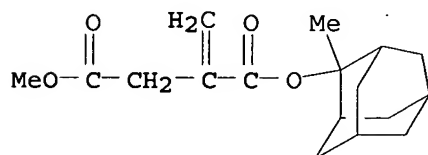
RN 186586-06-1 HCAPLUS

CN Butanedioic acid, methylene-, 4-methyl 1-(2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 186586-05-0

CMF C17 H24 O4



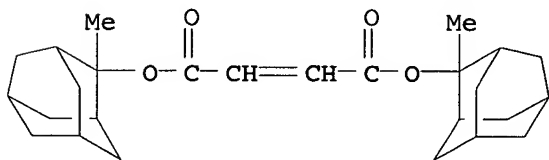
RN 186586-08-3 HCAPLUS

CN 2-Butenedioic acid, polymer with bis(2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl) 2-butenedioate (9CI) (CA INDEX NAME)

CM 1

CRN 186586-07-2

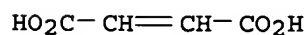
CMF C26 H36 O4



CM 2

CRN 6915-18-0

CMF C4 H4 O4



IC ICM G03F007-039

ICS G03F007-16

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 76

ST alkali developable chem **amplification resist**
compn

IT Integrated circuits
Photolithography
Photoresists
(chemical **amplification resist** composition and
process to manufacture **resist** master using the same)

IT 59269-51-1P, Polyvinylphenol 169223-75-0P, tert-Butyl
acrylate- 1-adamantyl methacrylate copolymer 181020-29-1P
181531-12-4P 181531-13-5P 186585-31-9P,
Methacryloyl chloride-mevalonic lactone copolymer 186585-32-0P,
Cyclohexyl methacrylate-methacryloyl chloride-mevalonic lactone
copolymer 186585-33-1P, p-Acetoxystyrene-methacryloyl
chloride-mevalonic lactone copolymer 186585-34-2P, Norbornyl
methacrylate-methacryloyl chloride-mevalonic lactone copolymer
186585-36-4P, 1-Adamantyl methacrylate-methacryloyl
chloride-mevalonic lactone copolymer 186585-38-6P,
2-Methyl-2-adamantyl methacrylate-methacryloyl chloride-mevalonic
lactone copolymer 186585-40-0P 186585-44-4P
186585-47-7P 186585-49-9P 186585-51-3P
186585-53-5P 186585-55-7P 186585-57-9P
186585-60-4P 186585-63-7P 186585-66-0P
186585-68-2P 186585-70-6P 186585-72-8P
186585-75-1P 186585-78-4P 186585-81-9P
186585-84-2P 186585-88-6P, tert-Butyl methacrylate;
methacrylic acid; 2-methyl-2-adamantyl methacrylate copolymer
186585-90-0P 186585-91-1P 186585-92-2P
186585-93-3P 186585-94-4P 186585-95-5P
186585-96-6P 186585-97-7P 186585-98-8P
186585-99-9P 186586-00-5P 186586-01-6P
186586-02-7P 186586-03-8P 186586-04-9P
186586-06-1P 186586-08-3P 186586-09-4P
186586-11-8P
(chemical **amplification resist** composition)

IT 311814-86-5P
(chemical **amplification resist** composition)

L31 ANSWER 40 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1996:612457 HCAPLUS

DOCUMENT NUMBER: 125:234436

TITLE: Chemical **amplification**-type resist
containing crown ether

INVENTOR(S): Kaimoto, Hiroko; Oikawa, Akira; Myata,
Shuichi; Hatanaka, Yasunori; Ikeda, Yumiko

PATENT ASSIGNEE(S): Fujitsu Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF

DOCUMENT TYPE: **Patent**

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 08190193	A2	19960723	JP 1995-3217	1995

0112

PRIORITY APPLN. INFO.:

<--
JP 1995-32171995
0112

AB The resist comprises a mixture of a photo-acid generator, a base polymer with a releasable protective group, and a crown ether compound. Deactivation of the acid before post baking is prevented.

IT 143336-95-2P
(chemical **amplification**-type resist containing crown ether compound)

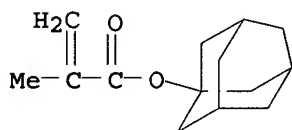
RN 143336-95-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with tricyclo[3.3.1.1^{3,7}]dec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 16887-36-8

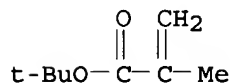
CMF C14 H20 O2



CM 2

CRN 585-07-9

CMF C8 H14 O2



IC ICM G03F007-004

ICS G03F007-004; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37

ST chem **amplification** resist crown ether

IT **Resists**
(chemical **amplification**; chemical **amplification**-type resist containing crown ether compound)

IT 14098-44-3, Benzo-15-crown-5 17455-13-9, 18-Crown-6
26030-67-1, Dicyclohexyl-15-crown-5
(chemical **amplification**-type resist containing crown ether compound)

IT 143336-95-2P
(chemical **amplification**-type resist containing crown ether compound)

IT 161982-96-3
(chemical **amplification**-type resist containing

crown ether compound)

L31 ANSWER 41 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1996:606880 HCAPLUS
 DOCUMENT NUMBER: 125:234432
 TITLE: Chemical **amplification**-type resist
 solution with improved coatability
 INVENTOR(S): Oota, Toshuki; Tanabe, Takayoshi; Tsuji, Akira
 PATENT ASSIGNEE(S): Japan Synthetic Rubber Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: **Patent**
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 08179500	A2	19960712	JP 1994-335607	1994 1221

PRIORITY APPLN. INFO.:

<--
 JP 1994-335607
 1994
 1221

AB The title resist solution contains propylene glycol alkyl ether propionate as a solvent. The solution can be spin-coated on large-sized substrates to form an uniform resist film showing high photosensitivity and resolution and is useful for manufacture of elec. circuits. Thus, poly(hydroxystyrene) protected partially with tert-butoxycarbonyl group and Ph3S+.CF3SO3- were dissolved in propylene glycol monomethyl ether propionate to give a resist solution

IT 175284-06-7P, tert-Butyl acrylate-vinylphenol copolymer
 (chemical **amplification**-type resist composition
 containing propylene glycol alkyl ether propionate as solvent)

RN 175284-06-7 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with
 ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 31257-96-2

CMF C8 H8 O

CCI IDS



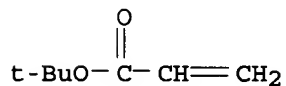
D1- OH

D1- CH=CH₂

CM 2

CRN 1663-39-4

CMF C7 H12 O2



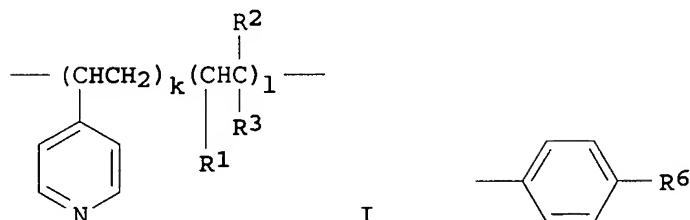
IC ICM G03F007-004
 CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 76
 ST chem **amplification resist** soln; propylene
 glycol alkyl ether propionate solvent
 IT **Resists**
 (chemical **amplification-type resist** composition
 containing polypropylene glycol alkyl ether propionate as solvent)
 IT 98516-33-7, Propylene glycol monomethyl ether propionate
 181259-38-1
 (chemical **amplification-type resist** composition
 containing propylene glycol alkyl ether propionate as solvent)
 IT 59269-51-1DP, Polyhydroxystyrene, ethers with Bu bromoacetate
 84775-35-9P 95418-59-0P, p-tert-Butoxystyrene-styrene copolymer
 170636-47-2P, tert-Butyl acrylate-styrene-vinylphenol copolymer
 175284-06-7P, tert-Butyl acrylate-vinylphenol copolymer
 (chemical **amplification-type resist** composition
 containing propylene glycol alkyl ether propionate as solvent)
 IT 3089-11-0
 (crosslinking agent; chemical **amplification-type**
 resist composition containing propylene glycol alkyl ether
 propionate as solvent)
 IT 117458-06-7P 151533-21-0P
 (dissoln. inhibitor; chemical **amplification-type**
 resist composition containing propylene glycol alkyl ether
 propionate as solvent)

L31 ANSWER 42 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1995:808224 HCAPLUS
 DOCUMENT NUMBER: 123:270794
 TITLE: Chemical-**amplification**
photoresist composition for
 semiconductor device manufacture

INVENTOR(S): Urano, Fumyoshi; Fuje, Hirotooshi; Negishi, Takaaki
 PATENT ASSIGNEE(S): Wako Pure Chem Ind Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07128859	A2	19950519	JP 1993-298995	1993 1104
				<--
PRIORITY APPLN. INFO.:				JP 1993-298995
				1993 1104
				<--

GI



AB The resist composition consists of a resin selected from (i)-(iii): (i) a resin which becomes alkali-soluble by elimination of a protecting group with an acid, (ii) an alkali-soluble resin and a compound which becomes alkali-soluble by elimination of a protecting group with an acid, (iii) an alkali-soluble resin and a compound which crosslinks with the resin to become alkali-insol., an acid-generating photosensitive compound, p-vinylpyridine polymer I [R1 = H or II (R4 = H, C1-4 linear or branched alkyl, alkoxy, halo); R2 = H, Me; R3 = H, COOR5 (R5 = C1-4 linear or branched alkyl, 2-hydroxyethyl); k ≥ 1, l ≥ 0] as a sensitivity-adjusting agent, and a solvent. The resist composition is useful in semiconductor patterning using ≤300 nm far UV or KrF excimer laser beams (248.4 nm). A high-resolution patterning even in resolution limit is obtained.

IT **26100-41-4P**
 (chemical-amplified photoresists containing p-vinylpyridine polymer for high resolution patterning in semiconductor device manufacture)

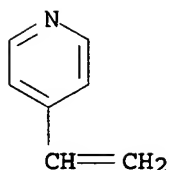
RN 26100-41-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 4-ethenylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 100-43-6

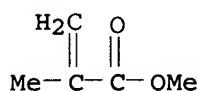
CMF C7 H7 N



CM 2

CRN 80-62-6

CMF C5 H8 O2

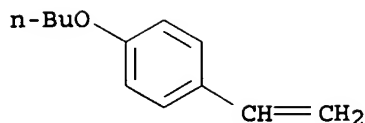


- IC ICM G03F007-039
ICS G03F007-004; G03F007-028; G03F007-038; H01L021-312
- CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
- IT Semiconductor devices
(chemical-amplified **photoresists** containing p-vinylpyridine
polymer for high resolution patterning in semiconductor device
manufacture)
- IT **Resists**
(photo-, chemical-**amplification**; chemical-amplified
photoresists containing p-vinylpyridine polymer for high
resolution patterning in semiconductor device manufacture)
- IT 97-64-3, Ethyl lactate 111-96-6, Diethylene glycol dimethyl
ether 3852-09-3, Methyl 3-methoxypropionate 84540-57-8,
Propylene glycol monomethyl ether acetate
(chemical-amplified **photoresists** containing p-vinylpyridine
polymer for high resolution patterning in semiconductor device
manufacture)
- IT 25232-41-1P, Poly(p-vinylpyridine) **26100-41-4P**
149642-75-1P 156862-09-8P, 1,3,5-Tris(isopropoxymethoxy)benzene
168904-82-3P 168904-83-4P
(chemical-amplified **photoresists** containing p-vinylpyridine
polymer for high resolution patterning in semiconductor device
manufacture)
- IT 14159-45-6 24979-70-2, Poly(p-vinylphenol) 56817-85-7
64309-46-2 123589-22-0, p-tert-Butoxystyrene-p-hydroxystyrene
copolymer 138529-81-4, Bis(cyclohexylsulfonyl)diazomethane
138529-84-7 138529-91-6, 2-Cyclohexylcarbonyl-2-(p-
toluenesulfonyl)propane 142940-36-1 158593-28-3
(chemical-amplified **photoresists** containing p-vinylpyridine
polymer for high resolution patterning in semiconductor device
manufacture)

L31 ANSWER 43 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:595644 HCAPLUS
DOCUMENT NUMBER: 123:127629
TITLE: Resist materials

INVENTOR(S): Takemura, Katsuya; Ishihara, Toshinobu;
 Maruyama, Kazumasa; Takeda, Yoshifumi;
 Shigemitsu, Minoru; Ito, Kenichi
 PATENT ASSIGNEE(S): Shinetsu Chemical Industry Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

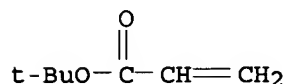
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07049569	A2	19950221	JP 1994-71337	1994 0317
JP 3427133	B2	20030714		
EP 701171	A1	19960313	EP 1994-113965	1994 0906
EP 701171	B1	19971217		
R: CH, DE, FR, LI, NL				
PRIORITY APPLN. INFO.:			JP 1993-154461	A 1993 0601
<--				
AB	The title materials contain an onium salt R ₁ nMX [R ₁ = (substituted) aromatic group; M = sulfonium, iodonium; X = p-toluenesulfonate, trifluoromethanesulfonate; n = 2, 3], an alkali-soluble resin, and, as a dissoln.-inhibitor, a polymer [CH(C ₆ H ₄ OH-p)CH ₂] _m [CH(C ₆ H ₄ R ₂ -p)CH ₂] _x [CR ₃ (CO ₂ Bu-tert)CH ₂] _y [CR ₃ (CO ₂ H)CHR ₄] _z (I; R ₂ = H, C ₁ -6 alkyl, C ₁ -6 alkoxy; R ₃ = H, Me; R ₄ = H, CO ₂ H, CO ₂ Bu-tert; 0 ≤ m ≤ 0.9; 0 < x ≤ 0.9; 0 < y ≤ 0.9; 0 ≤ z ≤ 0.5; m + x + y + z = 1; weight average mol. weight of I is 500-10,000). The materials are useful as pos.-working resists showing high sensitivity toward high energy rays and giving high resolution patterns with good plasma etch resistance and thermal resistance. Thus, a resist comprised poly(hydroxystyrene) partially substituted with tert-butoxycarbonyl group, p-butoxystyrene-tert-Bu acrylate copolymer, and triphenylsulfonium triflate.			
IT	165456-29-1P (dissoln. inhibitor; resist material containing onium salt and alkali-soluble resin and dissoln. inhibitor)			
RN	165456-29-1 HCAPLUS			
CN	2-Propenoic acid, 1,1-dimethylethyl ester, polymer with 1-butoxy-4-ethenylbenzene (9CI) (CA INDEX NAME)			
CM	1			
CRN	105337-03-9			
CMF	C12 H16 O			



CM 2

CRN 1663-39-4

CMF C7 H12 O2



IC ICM G03F007-039
ICS C08F020-06; C08F020-18; C08F212-14; G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
IT **Resists**
(chemical **amplification**; **resist** material
containing onium salt and alkali-soluble resin and dissoln. inhibitor)
IT **165456-29-1P** 165456-30-4P 165456-31-5P 165456-32-6P
(dissoln. inhibitor; **resist** material containing onium
salt and alkali-soluble resin and dissoln. inhibitor)
IT 66003-78-9, Triphenylsulfonium triflate 84563-54-2,
Bis(tert-butylphenyl)iodonium triflate
(**resist** material containing onium salt and alkali-soluble
resin and dissoln. inhibitor)
IT 59269-51-1D, Poly(hydroxystyrene), tert-butoxycarbonylated
(**resist** material containing onium salt and alkali-soluble
resin and dissoln. inhibitor)

L31 ANSWER 44 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:32944 HCAPLUS

DOCUMENT NUMBER: 114:32944

TITLE: Synthesis and photochemical reaction of
polymers containing pendant

2-cyclohexenone-4-yl ester group

AUTHOR(S): Iizawa, Takashi; Nishiyama, Kazuaki;
Nishikubo, TadatomiCORPORATE SOURCE: Fac. Eng., Hiroshima Univ., Higashihiroshima,
724, JapanSOURCE: Journal of Photopolymer Science and Technology
(1990), 3(2), 125-6

CODEN: JSTEEW; ISSN: 0914-9244

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis, acidolysis, and photolysis of poly
(2-cyclohexenone-4-yl methacrylate) were studied in terms of
deblocking of the protecting 2-cyclohexenone-4-yl ester group for
use in chemical **amplification resists**. The
polymer and its copolymers were prepared from radical polymerization of
CH₂:CMeCO₂H and comonomers in DMSO at 60° for 2 h and then

at 80° for 1 h using 1 mol% AIBN, followed by esterification of the resulting polymer solution with 4-bromo-2-cyclohexenone using DBU as an acid acceptor. Photolysis of the polymer film in the presence of a photogenerating cationic catalyst did not effect the deblocking but merely resulted in the protonation of the carbonyl group of the cyclohexenone moiety. The acidolysis of 4-acetoxy-2-cyclohexenone in CF₃SO₃H quant. yielded phenol and AcOH.

IT 131193-08-3P
(preparation and acidolysis and photolysis of, for chemical-
amplification photoresists)

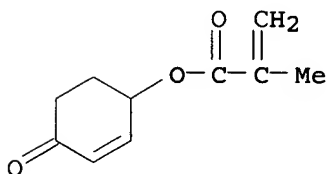
RN 131193-08-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 4-oxo-2-cyclohexen-1-yl ester,
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 131193-07-2

CMF C10 H12 O3



CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 35

IT Photolysis
(of poly(cyclohexenonyl methacrylate), for chemical-
amplification photoresist)

IT Hydrolysis
(acid, of poly(cyclohexenonyl methacrylate), for chemical-
amplification photoresist)

IT **Resists**
(photo-, chemical-**amplification**, characteristics of
poly(cyclohexenonyl methacrylate) for)

IT 131193-08-3P
(preparation and acidolysis and photolysis of, for chemical-
amplification photoresists)

=> d his

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L1 1 S US20030186160/PN
SEL RN

FILE 'REGISTRY' ENTERED AT 13:42:24 ON 27 APR 2006
L2 17 S E1-E17

FILE 'LREGISTRY' ENTERED AT 13:42:56 ON 27 APR 2006
L3 STR
L4 STR

FILE 'REGISTRY' ENTERED AT 13:49:32 ON 27 APR 2006
L5 SCR 2043
L6 STR L4
L7 STR L4
L8 50 S L3 AND L7 AND L5
L9 SCR 2077
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L11 STR L7
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L14 SCR 1918 OR 1995 OR 2026 OR 2021 OR 2016
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L19 5 S L18 AND L2
SAV L18 TEMP WAL373/A

FILE 'HCAPLUS' ENTERED AT 14:53:30 ON 27 APR 2006
L20 242746 S L18
L21 59331 S L20(L) PREP/RL
L22 4780 S L21(L)?RESIST?
L23 1429 S L22 AND PHOTOG?/SC
L24 1429 S L23 AND (RESIST? OR PHOTOESIST?)/IT
L25 108 S L24 AND AMPLIFIC?
L26 93 S L25 AND P/DT
L27 78 S L26 AND (1907-2002)/PRY,AY
L28 15 S L25 NOT L26
L29 11 S L28 NOT (2003-2006)/PY
L30 89 S L27 OR L29
L31 44 S L30 AND AMPLIFIC?(A)?RESIST?
L32 1 S L31 AND L1
L33 5 S L19
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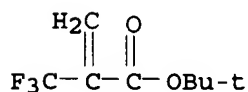
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L34 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:193857 HCAPLUS
DOCUMENT NUMBER: 140:375562
TITLE: Radical copolymerization of
2-trifluoromethylacrylic monomers. II.
Kinetics, monomer reactivities, and
penultimate effect in their copolymerization
with norbornenes and vinyl ethers
AUTHOR(S): Ito, Hiroshi; Okazaki, Masaki; Miller, Dolores

C.
 CORPORATE SOURCE: IBM Almaden Research Center, San Jose, CA,
 95120-6099, USA
 SOURCE: Journal of Polymer Science, Part A: Polymer
 Chemistry (2004), 42(6), 1478-1505
 CODEN: JPACEC; ISSN: 0887-624X
 PUBLISHER: John Wiley & Sons, Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Radical copolymn. of electron-deficient 2-trifluoromethyl acrylic
 (TFMA) monomers, such as 2-trifluoromethyl acrylic acid and t-Bu
 2-trifluoromethyl acrylate (TBTFMA), with electron-rich norbornene
 derivs. and vinyl ethers with 2,2'-azobisisobutyronitrile as the
 initiator were investigated in detail through the anal. of the
 kinetics in situ with ¹H NMR and through the determination of the monomer
 reactivity ratios. The norbornene derivs. used in this study
 included bicyclo[2.2.1]hepta-2-ene (norbornene) and
 5-(2-trifluoromethyl-1,1,1-trifluoro-2-hydroxyl-propyl)-2-
 norbornene. The vinyl ether monomers were Et vinyl ether, t-Bu
 vinyl ether, and 3,4-dihydro-2-H-pyran. Vinylene carbonate was
 found to copolymerize with TBTFMA. Although none of the monomers
 underwent radical homopolymn. under normal conditions, they
 copolymd. readily, producing a copolymer containing 60-70 mol % TFMA.
 The copolymn. of the TFMA monomer with norbornene and vinyl ethers
 deviated from the terminal model and could be described by the
 penultimate model. The copolymers of TFMA reported in this
 article were evaluated as chemical amplification resist polymers for
 the emerging field of 157-nm lithog.
 IT 478623-13-1P 478623-14-2P 478623-15-3P
 478623-16-4P
 (kinetics radical copolymn. of trifluoromethyl acrylic monomers
 with norbornene and vinyl ethers)
 RN 478623-13-1 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
 polymer with 2-(ethenyloxy)-2-methylpropane (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8
 CMF C8 H11 F3 O2



CM 2

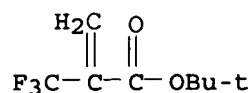
CRN 926-02-3
 CMF C6 H12 O



RN 478623-14-2 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
 polymer with ethoxyethene (9CI) (CA INDEX NAME)

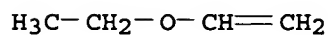
CM 1

CRN 105935-24-8
 CMF C8 H11 F3 O2



CM 2

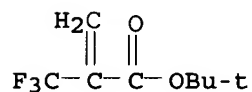
CRN 109-92-2
 CMF C4 H8 O



RN 478623-15-3 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
 polymer with 2,3-dihydrofuran (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8
 CMF C8 H11 F3 O2



CM 2

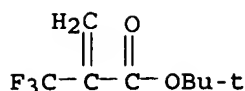
CRN 1191-99-7
 CMF C4 H6 O



RN 478623-16-4 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
 polymer with 1,3-dioxol-2-one (9CI) (CA INDEX NAME)

CM 1

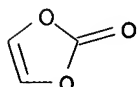
CRN 105935-24-8
 CMF C8 H11 F3 O2



CM 2

CRN 872-36-6

CMF C3 H2 O3



CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 74

IT 370866-19-6P, Norbornene-2-Trifluoromethylacrylic acid copolymer

370866-39-0P 478548-62-8P 478623-13-1P

478623-14-2P 478623-15-3P 478623-16-4P

634196-78-4P 684648-12-2P

(kinetics radical copolymn. of trifluoromethyl acrylic monomers with norbornene and vinyl ethers)

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L34 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:799360 HCAPLUS

DOCUMENT NUMBER: 139:44101

TITLE: Aliphatic platforms for the design of 157-nm chemically amplified resists

AUTHOR(S): Ito, Hiroshi; Truong, Hoa D.; Okazaki, Masaki;
Miller, Dolores C.; Fender, Nicolette; Breyta,
Gregory; Brock, Phillip J.; Wallraff, Gregory
M.; Larson, Carl E.; Allen, Robert D.

CORPORATE SOURCE: IBM Almaden Research Ctr., San Jose, CA, USA
SOURCE: Proceedings of SPIE-The International Society
for Optical Engineering (2002), 4690(Pt. 1,
Advances in Resist Technology and Processing
XIX), 18-28

PUBLISHER: CODEN: PSISDG; ISSN: 0277-786X
SPIE-The International Society for Optical
Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Our primary platform for 157 nm pos. resists is built on a copolymer of t-Bu 2-trifluoromethylacrylate (TBTFMA) and norbornene bearing hexafluoroisopropanol (NBHFA) as an acid group, which is prepared by radical copolymn. The radical copolymn. of 2-trifluoromethylacrylic monomers with norbornene derivs. has been found through reactivity ratio determination and in situ ¹H NMR anal. of kinetics to deviate from the terminal model but to follow the penultimate model. These copolymers typically contain ~50 mol% TBTFMA, are lipophilic, and fail to provide good imaging due to poor wettability. Blending a homopolymer of NBHFA (optical d. (OD)=1.7/μm at 157 nm) into the copolymers (OD=2.5-2.7/μm)

increases the hydrophilicity and reduces OD to 2.2-2.0/ μm , providing high resolution images. Another platform we have identified is a copolymer of TBTFMA with vinyl ethers, which can be prepared by using a common radical initiator. Some of the vinyl ether copolymers are also homogeneously miscible with the NBHFA homopolymer and thus their OD and aqueous base development can be improved by blending.

IT 478623-13-1P 478623-14-2P 478623-15-3P
478623-16-4P

(aliphatic platforms for design of 157-nm chemical amplified resists containing)

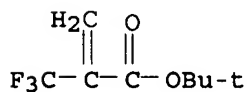
RN 478623-13-1 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 2-(ethenyloxy)-2-methylpropane (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8

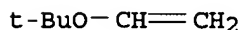
CMF C8 H11 F3 O2



CM 2

CRN 926-02-3

CMF C6 H12 O



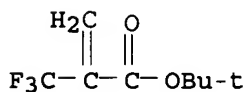
RN 478623-14-2 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with ethoxyethene (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8

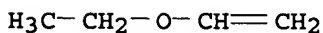
CMF C8 H11 F3 O2



CM 2

CRN 109-92-2

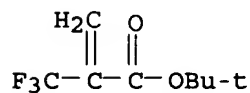
CMF C4 H8 O



RN 478623-15-3 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
 polymer with 2,3-dihydrofuran (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8
 CMF C8 H11 F3 O2



CM 2

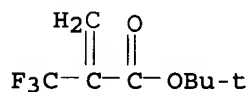
CRN 1191-99-7
 CMF C4 H6 O



RN 478623-16-4 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
 polymer with 1,3-dioxol-2-one (9CI) (CA INDEX NAME)

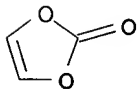
CM 1

CRN 105935-24-8
 CMF C8 H11 F3 O2



CM 2

CRN 872-36-6
 CMF C3 H2.03



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 35, 38
 IT 357397-07-0P 370866-39-0P 478548-62-8P 478623-10-8P
 478623-13-1P 478623-14-2P 478623-15-3P

478623-16-4P

(aliphatic platforms for design of 157-nm chemical amplified resists containing)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L34 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:633328 HCAPLUS

DOCUMENT NUMBER: 138:47153

TITLE: Fluoropolymers for 157/193 nm lithography:
chemistry, new platform, formulation strategy,
and lithographic evaluation

AUTHOR(S): Ito, H.; Truong, H. D.; Okazaki, M.; Miller,
D. C.; Fender, N.; Brock, P. J.; Wallraff, G.
M.; Larson, C. E.; Allen, R. D.

CORPORATE SOURCE: IBM Almaden Research Center, San Jose, CA,
95120, USA

SOURCE: Journal of Photopolymer Science and Technology
(2002), 15(4), 591-602
CODEN: JSTEED; ISSN: 0914-9244

PUBLISHER: Technical Association of Photopolymers, Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A copolymer of tert-Bu 2-trifluoromethylacrylate (TBTFMA) and norbornene bearing hexafluoroisopropanol (NBHFA) as an acid group, which is prepared by radical copolymerization, is employed in the authors 157 nm resist. The radical copolymerization of 2-trifluoromethylacrylic monomers with norbornene derivs. has been shown to follow the penultimate model much better than the commonly employed terminal model. These copolymers (containing >50 mol% TBTFMA) are too lipophilic to provide good imaging. Blending a NBHFA homopolymer with an optical d. (OD) of 1.7/ μ m at 157 nm into the copolymers (OD = 2.5-2.7/ μ m) results in increased hydrophilicity and reduced OD (2.2-2.0/ μ m) and provides high resolution images. A copolymer of TBTFMA with vinyl ethers has been identified as a new platform, which can be prepared easily by common radical polymerization. Certain vinyl ether copolymers are also compatible with the NBHFA homopolymer and thus blending improves their OD and aqueous base development. Because these fluoropolymers are highly transparent at 193 nm as well, they are evaluated as 157/193 dual wavelength resists.

IT 478623-13-1 478623-14-2 478623-15-3
478623-16-4

(design and lithog. evaluation of photoresist formulations for
157/193 nm lithog. containing copolymers of trifluoromethylacrylic
monomers with vinyl ethers)

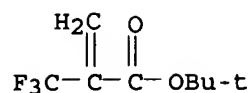
RN 478623-13-1 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
polymer with 2-(ethenyloxy)-2-methylpropane (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8

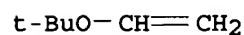
CMF C8 H11 F3 O2



CM 2

CRN 926-02-3

CMF C6 H12 O



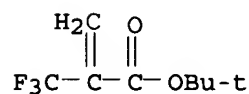
RN 478623-14-2 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
polymer with ethoxyethene (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8

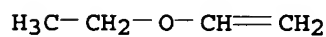
CMF C8 H11 F3 O2



CM 2

CRN 109-92-2

CMF C4 H8 O



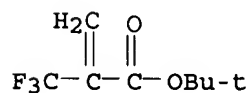
RN 478623-15-3 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
polymer with 2,3-dihydrofuran (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8

CMF C8 H11 F3 O2



CM 2

CRN 1191-99-7

CMF C4 H6 O



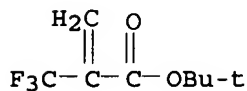
RN 478623-16-4 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,
polymer with 1,3-dioxol-2-one (9CI) (CA INDEX NAME)

CM 1

CRN 105935-24-8

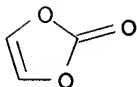
CMF C8 H11 F3 O2



CM 2

CRN 872-36-6

CMF C3 H2 O3

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

Section cross-reference(s): 35

IT 478623-12-0 478623-13-1 478623-14-2

478623-15-3 478623-16-4

(design and lithog. evaluation of photoresist formulations for
157/193 nm lithog. containing copolymers of trifluoromethylacrylic
monomers with vinyl ethers)

REFERENCE COUNT:

27

THERE ARE 27 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT